DOCUMENT RESUME

ED 095 002 SE 017 933

TITLE	[SMEAC Newsletters, Science Education, Vol. 1, No. 1--Vol. 2, No. 1, 1967-1968].
INSTITUTION	ERIC Information Analysis Center for Science, Mathematics, and Environmental Education, Columbus, Ohio.
PUB DATE	68
NOTE	76p.; For related documents, see SE 017 934-938
EDRS PRICE	MF-$0.75 HC-$4.20 PLUS POSTAGE
DESCRIPTORS	Government Publications; *Information Science; Information Services; Information Sources; *Newsletters; *Science Education
IDENTIFIERS	ERIC SMEAC; Research Reports

ABSTRACT

Each of these newsletters, produced by the ERIC Information Analysis Center for Science, Mathematics, and Environmental Education, contains information concerning center publications and other items considered of interest to researchers and educators of various education levels. Vol. 1, No. 1 highlights selected bibliographies (no longer produced by the center); No. 2, information resources; No. 3, locations of outdoor education programs for which written descriptions are available; No. 4, a summary of science education reports found in U.S. Office of Education Research Reports, 1956-1965; with Vol. 2, No. 1, being a continuation of this listing of U.S. Office of Education Research Reports. (PEB)

SEIAC

ERIC

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED 095082

Information: A Pressing Need

A matter of real concern to persons working in many areas of educational activity has been the accumulation of information bearing on teaching and learning; the focus of the concern has been on the dissemination of that part which is valuable and useful. New knowledge and understanding related to teaching and learning often have not been available to teachers nor to researchers. Thus, research and development efforts have not been effectively served, and their success in producing change in educational practice has been correspondingly limited.

To bridge the gap between research and development and the use of information in the schools the United States Office of Education has established several information centers with activities coordinated by the central office of the Educational Research Information Center (ERIC) in Washington, D.C. The Science Education Information Analysis Center (SEIAC) is the ERIC Center responsible for processing and disseminating research and related information pertinent to the teaching and learning of science.

The SEIAC Newsletter will be an important part of our communication system to keep individuals in science education and related fields informed on the activities of the Center and of materials processed in the Center. The newsletter will be published on a quarterly basis.

SCOPE OF COVERAGE

The ERIC Information Analysis Center for Science Education is responsible for research reports and other documents related to all levels of science—elementary, secondary, higher, and adult and continuing education. Included are those reports concerned with the clarification of science objectives; development of curriculums and teaching materials; applications of media to science education, with related methodological or evaluation studies; reports on the impact of such factors as interest, intelligence, values, and concept development upon learning in science; and any reports bearing on related preservice and inservice teacher education and supervision in science programs.

Center Operations

During the past year SEIAC has been organized and has become involved in several kinds of operations. These operations include: (1) acquisition of documents, (2) processing, (3) filing and storage, (4) search and retrieval, and (5) dissemination. A brief explanation of each of these operations will provide our users with a better concept of the Center.

Acquisition. The Center, cooperating with the ERIC system, has an active program to obtain documents pertinent to science education. Documents collected include research reports, curriculum guides, teacher guides, speeches and papers presented at conferences and meetings, journal articles, newsletters, conference proceedings, tests and evaluation materials, bibliographies, instructional materials, and program outlines.

Materials are solicited from a variety of sources to obtain unpublished documents as well as those that have been published. Requests for documents have been sent to most science educators at the college and university level; to state, county, and city science supervisors; to directors of research and development projects related to teaching and learning science; to leaders of organizations involved in activities related to science education; and to publishers.

In addition to requests to individuals, current professional journals and books are obtained and searched for pertinent literature. Journals obtained and reviewed will be discussed in detail in the next SEIAC Newsletter.

We have been very pleased with the cooperation and response we have received. Over 7,000 documents have been obtained during the past eleven months. We encourage you to continue to send two copies of materials you produce in the field of science education to the Center. We would appreciate also, bibliographies related to science education and references to projects, research reports, and other materials that have been produced so that we may develop a comprehensive and useful collection.

SE017 933

BIBLIOGRAPHICAL DATA

SE000022240467

THE DEVELOPMENT AND TESTING OF INSTRUCTIONAL MATERIALS FOR GIFTED PRIMARY PUPILS (FINAL REPORT).
SANDS, THEODORE * HICKLIN, CHARLES .
ILLINOIS STATE UNIV., NORMAL
STATE DEPT. OF PUBLIC INSTRUCTION, SPRINGFIELD, ILL.
1965
EDRS PRICE MF-$0.18 HC--$2.76 69P

TERMS

*ELEMENTARY SCHOOL SCIENCE, *INSTRUCTION, *INDIVIDUAL INSTRUCTION, *PROGRAMMED INSTRUCTION, AUDIOVISUAL INSTRUCTION, ABLE STUDENTS, MATHEMATICS EDUCATION, PHYSICAL SCIENCES, PRIMARY EDUCATION, DEPARTMENT OF PROGRAM DEVELOPMENT FOR GIFTED CHILDREN,

ABSTRACT

SELF-INSTRUCTIONAL SCIENCE MATERIALS FOR GIFTED PRIMARY STUDENTS WERE DEVELOPED AND USED WITH FIRST AND SECOND GRADE STUDENTS. UNITS ON ATOMIC STRUCTURE, THE NATURE OF MOLECULES, MEASUREMENT, AND MATHEMATICS WERE DEVELOPED, USED, EVALUATED, AND REVISED OVER A TWO-YEAR PERIOD. LESSONS WERE PRESENTED THROUGH THE USE OF TAPE PLAYERS, ILLUSTRATIVE MATERIALS, AND WORKBOOKS. STUDENTS WERE SELECTED ON THE BASIS OF IQ SCORES AND ASSIGNED TO TWO GROUPS. EACH GROUP USED THE MATERIALS FOR ONE-HALF OF THE EXPERIMENTAL PERIOD. ALL STUDENTS WERE PRETESTED, TESTED AT THE END OF THE FOURTH WEEK, AND POST TESTED FOR ACHIEVEMENT WITH INSTRUMENTS DEVELOPED FOR THE STUDY. OTHER DATA WERE OBTAINED FROM TEACHER EVALUATION FORMS AND QUESTIONNAIRES COMPLETED BY TEACHERS AND PARENTS. ANALYSIS OF COVARIANCE WAS USED TO COMPARE PRETEST AND POST TEST SCORES OF STUDENTS IN THE TWO GROUPS. NONPARAMETRIC TECHNIQUES WERE USED TO CHECK SCORE DISTRIBUTIONS FOR GROUPS WITH INSIGNIFICANT F VALUES. SIGNIFICANT GAINS, AT THE .05 LEVEL, WERE OBTAINED FOR THE UNITS CONCERNED WITH MATHEMATICS, ATOMS, AND MEASUREMENT. A MAJORITY OF THE PARENTS FAVORED THE USE OF THE MATERIALS AND INDICATED THAT THE CHILDREN DEVELOPED INTEREST THROUGH THEIR STUDIES. (AG)

SAMPLE BIBLIOGRAPHICAL CITATION

1. Document Number: SE 000 022	2. Machine Date: 5 15 67	3. Subject Code: 10 42 47	4. Source Code: 13 000 230
5. Author: SANDS, THEODORE, HICKLIN, CHARLES R.			
6. Title: THE DEVELOPMENT AND TESTING OF INSTRUCTIONAL MATERIALS FOR GIFTED PRIMARY PUPILS (FINAL REPORT)			
7. Availability: EDRS, BELL AND HOWELL, CLEVELAND, OHIO			
8. Pub. Date: 1965	9. Pages: 69 p.		
10. Terms: *ELEMENTARY SCHOOL SCIENCE, *INSTRUCTION, *INDIVIDUAL INSTRUCTION, *PROGRAMMED INSTRUCTION, AUDIOVISUAL INSTRUCTION, ABLE STUDENTS, MATHEMATICS EDUCATION, PHYSICAL SCIENCES, PRIMARY EDUCATION, DEPARTMENT OF PROGRAM DEVELOPMENT OF GIFTED CHILDREN.			

Processing. The processing of documents involves several procedures with the result that a document is selected for input into the system; it is then cataloged, indexed, and abstracted or annotated.

Criteria below are applied to each document to determine whether it should be processed and, if it is processed, what form of processing it should receive.

1. *Subject Area*

   The document relates to programs, processes, materials, facilities, or persons involved in teaching or learning science.

2. *Originality*

   The document presents new information concerning science education, provides new interpretations of information or theories in the field, or presents a description of exemplary programs, materials, facilities, or processes.

3. *Adequacy of Design of Research Documents*

   Research studies should employ designs appropriate to the problem and populations involved in the investigation. Philosophical studies should employ logical reasoning in analysis and synthesis.

4. *Professional Significance of the Document*

   Documents selected should provide information or methodology for improving educational practice, improving research techniques, identifying needed research, or for clarifying the field of science education.

5. *Availability of the Document*

   All documents that are evaluated as of significance to science education are processed and input to the national and/or local ERIC system. Special efforts are made to identify documents that are out-of-print or not readily available to the users of this Center for input to the national ERIC system.

6. *Reproduction Release for ERIC*

   The ERIC Information Analysis Center for Science Education must receive permission to reproduce copyrighted documents before they can be placed in the national ERIC system. Documents of value that are not cleared for reproduction are processed, but maintained in local files on an abstract or titled basis.

If the document is selected for input to the Center collection, it is processed in several steps resulting in an ERIC resume and or a bibliographic citation. Examples of a resume and a bibliographic citation indicate the information contained in each. The resume form indicates general bibliographic information, a list of terms identifying the major concepts in the document, and an abstract that relates the important ideas and materials in the document. The bibliographic citation includes general bibliographic information and a list of terms that identify the major concepts in the document.

The indexing and abstracting of the document are done by persons with a knowledge and understanding of science education gained through teaching experience, graduate study, and research activity.

A completed resume is typed on a Friden Flexowriter to produce a typed copy of the resume and machine-readable paper tape. Bibliographic citations are also typed on the Flexowriter. The machine-readable paper tapes for selected resumes are processed by computers to produce the abstracts and indexes in *Research in Education* published monthly by the Office of Education. The tapes for both the resumes and the bibliographic citations are used in the Center to develop bibliographies and to develop collections of selective abstracts.

Filing and Storage. A copy of each document selected for input to the SEIAC collection is kept on file at the Center in Columbus. Documents are in various forms including microfiche, roll film, books, monographs, papers, and journal articles. Arrangements can be made by interested investigators to use these documents on site at the Center in Columbus, Ohio.

Documents announced in *Research in Education* are maintained on file by the ERIC Document Reproduction Service (EDRS) located at the Bell and Howell Company in Cleveland, Ohio. Copies of these documents may be purchased on microfiche, a form of microfilm four by six inches in size, which can contain up to 60 pages of text. Microfiche can be purchased for nine cents per sheet. The document may also be reproduced on paper stock for four cents per page of text. The paper stock reproductions are approximately the same size as the pages of the original document. Both microfiche and paper stock reproductions can be purchased from Bell and Howell.

Search and Retrieval. One of the principal objectives of the Center is to provide a quick and efficient procedure for searching the collection of documents at the Center. Such a search may be made (1) to respond to a user's request, (2) to develop a general bibliography, or (3) to obtain documents for a state-of-the-art report.

The retrieval terms listed on each resume or bibliographic citation provide the keys to the collection.

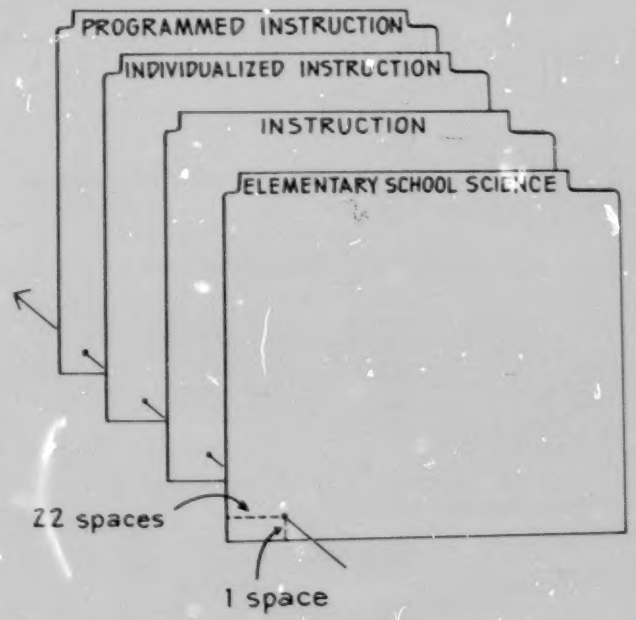

FIGURE 1

Drilling of Termatrex Cards for Document 122

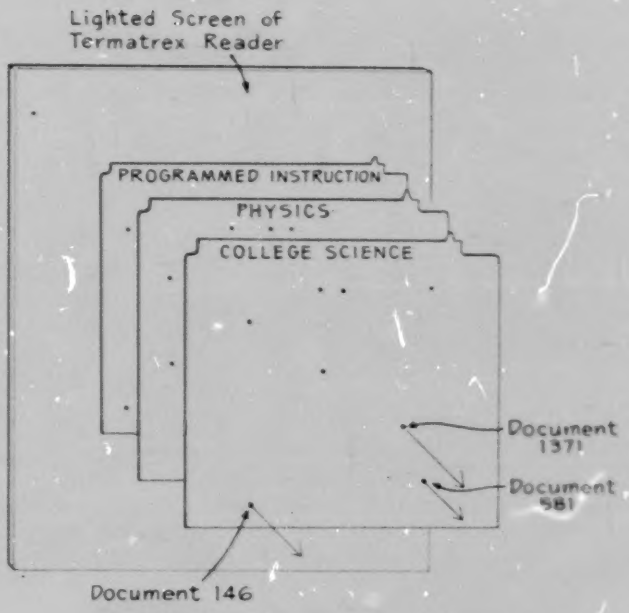

FIGURE 2

Search of Termatrex Cards for Selected Documents

Each document is assigned a number to identify the document in the Center collection. The number of the document is drilled into a Termatrex term card for each retrieval term selected for the document. (Termatrex is a trade name for plastic cards and optical scanning equipment developed by Jonker Business Machines, Inc.) For example, term cards for all the terms on the sample resume, Document 122, would be drilled as shown in Figure 1. These terms range from a broad concept such as *instruction* to a narrower concept such as *programmed instruction*.

The Center also has Termatrex optical equipment that enables the staff to examine one or several term cards at one time. A search of the term *instruction* would locate many documents. A search of the term *programmed instruction* would provide fewer documents. Combining several terms enables the analysts to select documents relevant to specific areas. For example, term cards for *college science*, *physics*, and *programmed instruction* could be combined as in Figure 2 to obtain documents relevant to programmed instruction to physics at the college level. Three documents, number 146, 581, and 1371, contain punches for each term. When the form cards are placed on the lighted screen of the reader, a beam of light is visible for each of these number positions.

The retrieval analysts combine the bibliographic citations for documents that contain the desired terms. These citations can be examined by the user to determine if he wants to obtain a document. The retrieval terms again serve a useful function. Each document is indexed by terms that indicate the major ideas and the form of the document. An analysis of these terms provides the user with useful information about the content and type of document.

The availability of the document is indicated on the citation. This information indicates if the document can be obtained from the ERIC Document Reproduction Service (EDRS) or from a book, journal, or individual researcher.

Dissemination of Information (Services). The Center has begun input of documents to the central ERIC system. These documents will be announced in *Research in Education*. This publication contains resumes from all information centers. Indexes are provided to authors, institutions, and major retrieval terms. A subscription is $11 a year for twelve issues. To place an order for the publication, a check or money order should be sent to the Superintendent of Documents, United State Government Printing Office, Washington, D.C. 20202. Documents announced in *Research in Education* are available on microfiche or paper stock from the ERIC Document Reproduction Service, Bell and Howell Company, 1700 Shaw Avenue, Cleveland, Ohio 44112.

The Center is currently producing selected bibliographies related to science education for approximately 2,000 documents processed during the first year of operation. Selective bibliographies are being developed from the following subject categories within the field of science education:

1. INSTRUCTIONAL PROCEDURES

Documents describing or evaluating methods, procedures and techniques for teaching and learning. Analyses of factors influencing instruction are included.

2. LEGISLATIVE ACTS AND REPORTS

Copies of legislative acts and reports, papers, and other document forms that describe legislation and reports or analyze the influence of the legislation on science programs or school personnel.

3. LEARNING THEORY AND PROCESSES

Documents containing research reports, research reviews, and discussions concerning the organization of learning activities and factors that influence learning.

4. EVALUATION

Documents concerned with processes and materials for determining student and teacher behavior characteristics and behavior changes.

5. INSTRUCTIONAL EQUIPMENT AND MATERIALS

Documents describing or evaluating science apparatus (movable equipment), science textbooks and other printed materials, films, models, and other supplies used in science teaching.

6. FACILITIES

Documents describing or evaluating building sites, buildings, rooms, outdoor areas, and built-in equipment used in teaching and learning science.

7. EDUCATIONAL OBJECTIVES

Descriptions of planned outcomes of instructional programs, and research concerning aims and purposes of science programs, courses, and activities.

8. ACHIEVEMENT

Documents analyzing growth or change in intellectual, social, emotional, and physical behavior as a result of the instructional program.

9. SCIENCE AND SOCIETY

Various forms of documents analyzing the interrelationships of the scientific enterprise with other institutions in society.

10. HISTORY OF SCIENCE EDUCATION

Documents which contain biographical data of science educators, descriptions of important science programs, and descriptions of important events related to science education.

11. TEACHER EDUCATION

Documents concerning preservice and inservice programs for preparing and qualifying a person to teach science. Included are descriptions of existing programs and projected programs, evaluations of programs, and materials developed primarily for these purposes.

12. TEACHER CHARACTERISTICS

Documents describing or analyzing characteristics of teachers and the relationships of these factors to teacher behavior and teaching effectiveness.

13. STUDENT CHARACTERISTICS

Documents describing or analyzing characteristics of students and the relationship of these characteristics to learning and behavior.

14. RESEARCH METHODOLOGY

Expositions and research reports related to the methodology of action, operational, and basic research in science education.

15. GUIDANCE AND COUNSELING

Documents related to the role of the science teacher and supervisor in guidance processes and activities.

16. ADMINISTRATION AND SUPERVISION

Documents related to efforts of school administrators and supervisors to provide leadership in the administration and supervision of science programs and personnel involved in instruction.

17. CURRICULUM DEVELOPMENT

Documents specifically related to processes, activities, and materials for studying, evaluating, and improving facets of the educational program involving science. Descriptions of science programs and organized community efforts in science education are included.

These bibliographies will be issued periodically and will be free on request. The next SEIAC Newsletter will announce bibliographies that are available. Supplements to the bibliographies will be available on a semiannual basis.

The Center is currently accepting requests for specific searches. If you desire assistance in locating documents relevant to a specific topic or problem, you will receive assistance in locating such documents by calling the Center (1-614-293-6717). A retrieval analyst will assist you in structuring your question for search purposes. Telephone requests will enable the Center to provide you with more relevant information in a shorter period of time. After your question has been searched, you will receive a list of bibliographic citations to documents that are relevant to your question. The bibliographic citation indicates a source of the document. This information will help you locate documents that are not available through Bell and Howell in Cleveland.

The current program is focused on processing documents and providing bibliographic information concerning documents processed. As the size of the SEIAC collection increases, more extensive services will be provided. These services will be announced in the SEIAC Newsletter as they become available.

Advisory Board and Personnel

The policies for the operation of the Center are formulated with the assistance of the Advisory Board. The members of the Advisory Board have all been active in science education and are recognized as leaders in the field. They are:

1. J. Darrell Barnard, New York University
2. Frederic B. Dutton, Michigan State University
3. Robert W. Howe, The Ohio State University
4. Addison E. Lee, University of Texas
5. Milton O. Pella, University of Wisconsin
6. John S. Richardson, The Ohio State University
7. Stanley E. Williamson, Oregon State University

The Center is currently staffed by the Director, John S. Richardson; the Associate Director, Robert W. Howe; four document analysts; four technical and secretarial staff members, and two part-time clerks. Additional personnel will be added to the staff in the fall as operations continue to expand.

Location

The SEIAC office is located in Columbus near The Ohio State University campus. Facilities include processing areas, a document storage area, and offices for personnel. Ample parking space is available behind the office building. You are welcome to make use of this facility if you desire to examine documents at the Center.

ERIC Information Analysis Center
for Science Education
1460 West Lane Avenue
Columbus, Ohio 43221

SEIAC
Science Education Information Analysis Center
NEWSLETTER
AN ERIC CENTER

Volume 1, Number 2, November, 1967

Center Comments

The first issue of our newsletter identified bibliographies being developed by the Center. Four are available and will be sent free on request as long as the supply lasts. These bibliographies will also be available on microfiche and hardcopy at a later date from the ERIC Document Reproduction Service. Bibliographies available deal with (1) Curriculum (Curriculum Development and Education Programs); (2) Teacher Education; (3) Instructional Procedures; and (4) Instructional Equipment and Materials.

This issue of the newsletter is designed to answer questions of the many educators who have contacted this Center. We have received many inquiries concerning the journals reviewed in selecting articles related to science education. Procedures utilized to identify journal literature at the Center are explained, and journals received on a subscription basis are listed. We also have received many inquiries which could be served more effectively by other information agencies than by us. Examples of other organizations and agencies which provide information services that will assist the science educator are listed and described. We wish to help you locate appropriate information resources and encourage you to use these sources to obtain information that is available.

We appreciate the materials related to science education which we have received from many of you. We request that you continue to send two copies of materials you develop to the Center. This will enable us to maintain current awareness services and provide more effective retrieval searches.

Periodicals Reviewed

The ERIC Information Analysis Center for Science Education has the responsibility of acquiring, processing, and analyzing documents pertinent to the teaching and learning of science. Effective coverage of the periodical literature is necessary to provide a sound data base for bibliographies, retrieval services, and particularly, information analysis.

The Center subscribes on a regular basis to a number of journals related to science education. These include (1) *The American Biology Teacher*, (2) *American Journal of Physics*, (3) *Bioscience*, (4) *Childhood Education*, (5) *Impact of Science on Society*, (6) *Journal of Chemical Education*, (7) *Journal of Educational Research*, (8) *Journal of Geological Education*, (9) *Journal of Research in Science Teaching*, (10) *Metropolitan Detroit Science Review*, (11) *The Physics Teacher*, (12) *Review of Educational Research*, (13) *School Science and Mathematics*, (14) *Science and Children*, (15) *Science Books — A Quarterly Review*, (16) *Science Education*, (17) *The Science Teacher*, and (18) *Physics Today*.

Newsletters also are received on a regular basis from many organizations. These include science course improvement projects such as BSCS, ESCP, those sponsored under Title III, and those of the AAAS and other public and private organizations.

Information analysts at the Center use several other sources for identifying pertinent articles in the literature. The *Education Index*, *Psychological Abstracts*, and *Sociological Abstracts* are reviewed regularly. Bibliographies in articles, research reports, newsletters, and research reviews are all reviewed to identify other articles of importance to this Center.

Information Resources

The United States Office of Education established the ERIC system to act as an information link among researchers and between researchers and practitioners. While many researchers and practitioners are using the ERIC system, there are other agencies, many of which preceded ERIC, that can be equally helpful to the researcher or practitioner who seeks information.

While the functions of many of these agencies may overlap, each agency is nevertheless distinct. Each is sponsored by a specific institution or organization, each offers specific services, and each has limitations in regard to the type of information it can convey. Although these agencies are generally separate and distinct, they may, however, be grouped according

ED 011 933

to their organizational sponsor or according to the type of service they provide.

In the following paragraphs we will examine representative examples of four types of agencies. Although we cannot list all such agencies, the agencies described should be especially helpful to anyone seeking information in the area of science education.

GOVERNMENTAL INFORMATION AGENCIES

There are many agencies within the federal government that provide information concerning education. The documents mentioned are not classified.

Clearinghouse for Federal Scientific and Technical Information (CFSTI).

The Clearinghouse, an agency of the Department of Commerce, has been entrusted by Congress with the mission of searching for, collecting, classifying, coordinating, integrating and cataloging scientific and technical information "from whatever sources, foreign and domestic," that may be available. Serving business and industry, state and local governments, and the general public, the Clearinghouse for Federal Scientific and Technical Information has collected and collated over 400,000 federal research and development reports and translations of foreign technical material. These included unclassified reports of the Department of Defense, the Atomic Energy Commission, the National Aeronautics and Space Administration, the Federal Aviation Agency, the Department of Interior, and of other agencies.

Several publications of the CFSTI are of interest to educators. *United States Government Research and Development Reports* is a twice-monthly abstract journal listing and describing new reports as they are released. The annual subscription is $30. *Government-wide Index to Federal Research and Development Reports* is a semi-monthly central listing for guiding scientists to new unclassified government-sponsored technical information. The cost is $22 a year. As a special service CFSTI bibliographers will, upon request, make individual searches on a given topic. A fee is charged for all special services.

To subscribe to the journals or obtain information concerning the services described above, write the Clearinghouse for Federal Scientific and Technical Information, United States Department of Commerce, Springfield, Virginia 22151

National Referral Center for Science and Technology.

Operating in the Library of Congress, the Center may be described as an "information link" of the scientific and technical community. Although the Center does not provide technical details in answer to inquiries, it does direct those who have a question concerning a particular subject to either organizations or individuals with specialized knowledge of that particular subject. Concerned with all areas of science and technology, the Center maintains an inventory of specialized resources so that it can tell the educator or researcher where he can find the books, journals, patents, films, translations, or unpublished data he wants. Referral requests, available without charge, may be made by writing the National Referral Center for Science and Technology, Library of Congress, Washington, D.C. 20540 or by telephoning area code 202, 976-8265.

Science Information Exchange (SIE).

Developed 15 years ago, the Science Information Exchange was established to facilitate effective planning and management of scientific research activities and to avoid duplication of research. SIE collects information regarding who is doing research, what research is being done, where the project is located, and how the project is supported. The research of all basic and applied fields in social, physical, and engineering science is monitored. Abstracts of current research projects can be obtained without charge. Service requests are generally handled by specialists in the requestors area of interest. Services can be sought by a direct written or telephoned request to Science Information Exchange, Smithsonian Institute, National Bank Building, Suite 300, 1730 M Street, N. W., Washington, D.C. 20036.

Atomic Energy Commission (AEC)

The Atomic Energy Commission maintains a number of information and data centers to provide information to scientists, educators, and other persons with scientific or technical interests. Most of these centers are located at AEC laboratories where technical personnel are located. These information centers publish a variety of materials concerned with atomic energy and its uses. Many of these publications would be useful for teacher and student use. Each center provides other unique services. Some centers provide literature searches, issue data compilations, publish state-of-the-art reviews, and answer specific inquiries. For further information write Oak Ridge National Laboratory, P.O. Box Y, Oak Ridge, Tennessee 37830.

COLLEGE COMMISSIONS

Several commissions or councils have been established primarily to improve college and university programs in science. Each of the commissions works through panels, committees, and conferences to involve scientists and educators in its program to develop new undergraduate programs and to improve instruction. The products of these activities are then disseminated by the college commissions.

Advisory Council on College Chemistry.

This council emerged from an *ad hoc* conference convened by the National Science Foundation to

consider how improvement and innovation in undergraduate chemistry curricula and instruction could be implemented most effectively at the national level. Publications include major reports, descriptions of model laboratory experiments, newsletters dealing with various aspects of undergraduate chemistry, and resource papers on important chemical topics. For further information contact the Advisory Council on College Chemistry, Department of Chemistry, Stanford University, Stanford, California 94304.

Commission on College Physics (CCP).

The primary functions of the Commission are (1) the analysis of the problems of college physics teaching, (2) an appraisal of its strengths and weaknesses, (3) the stimulation of programs to strengthen physics instruction, and (4) the dissemination of information to the teaching community. The CCP publishes five newsletters per year. Published also are reports of conferences, biennial progress reports, and reprints of various articles on undergraduate physics. For further information write Commission on College Physics, Department of Physics, University of Maryland, College Park, Maryland 20742

Council on Education in the Geological Sciences.

The three principal objectives of the Council are (1) to develop instructional materials that will permit a problem-oriented approach to be adopted in introductory and intermediate level geology courses, (2) to develop an effective program to assist college teachers in up-grading their skills and help assure their continued professional development, and (3) to devise a series of curricula and course content guides which will provide for the educational needs of geologists and geo-physicists in the foreseeable future. Publications include review articles, annotated bibliographies, and course content guides for undergraduate geology. For information about the Council, write the Council on Education in the Geological Sciences, 701 Welch Road, Suite 303, Palo Alto, California 94304. For publications write the American Geological Institute, 1444 N. 3treet, N. W., Washington, D.C. 20005.

Commission on Undergraduate Education in the Biological Sciences (CUEBS).

The primary concern of this commission is to improve the content and instruction of undergraduate courses in biology. CUEBS publications, therefore, are concerned with (1) means of modernizing the biology curricula and (2) ways of improving the effectiveness of instructional programs. For copies of publications or for further information, write Commission on Undergraduate Education in the Biological Sciences, 1717 Massachusetts Avenue, N. W., Suite 403, Washington, D.C. 20036.

CURRICULUM IMPROVEMENT PROJECTS

During the past ten years a large number of course and program improvement projects have been organized. Aided by increasing public and private support, they have become more numerous and have often expanded the scope of their operations. Teachers, supervisors, and school administrators should be cognizant of these projects as they plan for future changes in their school programs. Persons directing course improvement projects or planning to develop a project should be aware of both past and current efforts. Examples of sources of information concerning such projects are described.

Projects to Advance Creativity in Education

PACE
Office of Education
Department of Health, Education Welfare
Washington, D.C.

This program, established through Title III of the Elementary and Secondary Education Act, involves many government-supported projects. In 1965 federal funds were authorized to assist local schools in developing or establishing exemplary school programs to serve as models for regular programs. Initially, more than 200 projects were approved. Details concerning each of the projects are presented in a publication entitled *PACE Setters in Innovation.* Under each project description is listed the name of the person to contact for further information.

AAAS Commission on Science Education.

American Association for the Advancement of Science,
1515 Massachusetts Avenue, N. W.,
Washington, D.C. 20005.

The Commission has broad interest and concern for science education at all grade levels. Elementary science materials for kindergarten through the sixth grade have been written and are in use in schools. A newsletter is published by the Commission.

Biological Sciences Curriculum Study (BSCS).

Biological Sciences Curriculum Study
P.O. Box 930
Boulder, Colorado 80302

Three texts and laboratory guides for a first course in secondary school biology, a second course for secondary school biology, special materials for low-ability high school students, and other materials are in use in schools. A newsletter is available.

Chemical Bond Approach (CBA).

Chemical Bond Approach
Dr. Lawrence E. Strong
Earlham College
Richmond, Indiana 47375

A text and related material for a high school chemistry course have been developed and are in use in schools. The project is considered complete. A newsletter is available from Webster Division, McGraw-Hill Book Company.

Chemical Education Material Study (CHEMS).

Chemical Education Material Study
Lawrence Hall of Science
University of California
Berkeley, California

The CHEM Study project has developed a textbook, laboratory manual, films, and related material for use in high school chemistry classes. A newsletter is available from CHEM Study Newsletter, University of California, Wing B, Gayley Road, Berkeley, California 94720.

Conceptually Oriented Program in Elementary Science (COPES).

Professor Morris H. Shamos
COPES Project
New York University
4 Washington Place
New York, New York 10003

This project is developing materials for teaching several concepts of science. Experimental materials are being used in selected elementary schools.

Earth Science Curriculum Project (ESCP).

Earth Science Curriculum Project
P.O. Box 1559
Boulder, Colorado 80302

This program has developed a textbook, laboratory manual, and other materials for teaching earth science to ninth grade students. A newsletter is published quarterly.

Elementary Science Project.

The Elementary Science Project
Department of Education and Physics
Box 574 Howard University
Washington, D.C. 20001

Materials have been developed to provide out-of-school science experiences for both students and parents. The kits developed by the project staff are in use in a number of schools.

Elementary Science Study (ESS).

Elementary Science Study
Educational Services Incorporated
108 Water Street
Watertown, Massachusetts 02172

A variety of science units, science kits, and other materials has been developed for elementary school science. A newsletter is available upon request.

Engineering Concepts Curriculum Project (ECCP).

Engineering Concepts Curriculum Project
Commission on Engineering Education
1501 New Hampshire Avenue, N.W.
Washington, D.C. 20036

Materials are being developed to teach engineering concepts concerning man in a man-made world to students in the eleventh and twelfth grades. The course is designed to tie physical principles to the study of systems, processes, and structures man has created. A newsletter is available on request.

Harvard Project Physics (HPP).

Harvard Project Physics
Harvard University
Cambridge, Massachusetts 02138

An introductory course for high school and junior college students is being developed. The course is designed to present physics as a human activity and to view the activity in historical and philosophical perspective. A variety of teaching materials has been developed and is being evaluated. A newsletter is available on request.

Intermediate Science Curriculum Study (ISCS).

Intermediate Science Curriculum Project
Kellum Hall Basement
Florida State University
Tallahassee, Florida 32306

Materials are being developed and evaluated that are designed to produce self-pacing science activities for students in grades 7, 8, and 9. Materials will move from a tight structure in grade 7 to open-ended activities in grade 9. A project newsletter is available.

Minnesota Mathematics and Science Teaching Project (MINNEMAST).

Minnesota Mathematics and
Science Teaching Project
720 Washington Avenue, S.E.
Minneapolis, Minnesota 55414

The project staff has produced materials for elementary schools (K-6) that integrate science and mathematics. Materials produced include mathematics and science units for students and inservice materials for teachers. Quarterly reports are available from the project headquarters.

Physical Science for Non-science Students (PSNS).

Dr. Lewis G. Bassett
Rensselaer Polytechnic Institute
Troy, New York 12181

Materials are being developed for a physical science course for non-science students at the college level. Experimental materials are currently being used. A newsletter is available.

Physical Science Study Committee Physics Course (PSSC).

PSSC—ESI
164 Main Street
Watertown, Massachusetts 02172

A variety of materials has been developed for teaching physics at the secondary school level. Text-

books, films, and paperbacks are among the materials produced and being used. A report is available quarterly from ESI at the above address.

The Portland Project—Integration of Chemistry and Physics for Secondary Schools.

Dr. Michael Fiasca
Portland State College
P.O. Box 751
Portland, Oregon 97207

This project has developed student and teacher materials for integrating chemistry and physics. Materials from the CBA, CHEM, and PSSC projects are being utilized. Enrollment statistics and an evaluation report are available.

Science Curriculum Improvement Study (SCIS).

Science Curriculum Improvement Study
Physics Department
Berkeley, California 94720

SCIS is developing an integrated set of materials for teaching science at the elementary school level. Materials are sequential, rather than graded. Project materials are being used in many schools. A newsletter is available upon request.

OTHER INFORMATION SERVICES

A number of agencies produce publications that are extremely useful to the teacher, investigator, supervisor, or project director. Several of these are briefly identified.

International Clearinghouse on Science and Mathematics Curricular Developments.

An activity of the Science Teaching Center at the University of Maryland, the International Clearinghouse attempts to promote better understanding by helping to establish and maintain cooperative relationships among curriculum project participants throughout the world through dissemination of information on science and mathematics curriculum activities. The annual report of the Clearinghouse is designed to include descriptions of curriculum development projects of an ongoing or recently influential nature that have relevance for others in science and mathematics curriculum work. Single copies of the 1967 Report will be furnished free to an individual as long as the supply lasts. Such requests should be addressed to Dr. J. David Lockard, Director, International Clearinghouse on Science and Mathematics Curricular Developments, Science Teaching Center, University of Maryland, College Park, Maryland.

UNESCO Publication Center.

Founded in 1946 as an agency of the United Nations, UNESCO is a coherent information network established to maintain contact among educators, scientists, and engineers of all countries. In order to disseminate information to the education and scientific communities of all nations, UNESCO sponsors a publication center from which individuals may order books on a variety of subjects. UNESCO, therefore, publishes leaflets announcing new books as well as annual book lists for science, education, and social sciences. These book lists are published in separate English, French, and Spanish editions and are sent free upon request. Books may be ordered from UNESCO Publication Center (NAIP), 317 E. 34th Street, New York, New York 10016.

Chemical Abstract Service (CAS).

A division of the American Chemical Society, the Chemical Abstract Service publishes numerous periodicals and offers a wide variety of services. Perhaps the best known of its periodicals is *Chemical Abstracts* which is published weekly. Each issue contains abstracts of approximately 4,600 papers and patents, a key word index, a numerical patent index, a patent concordance, and an author index. The abstracts are prepared from papers published in approximately 11,000 serial publications and from patents issued in 24 countries. CAS also offers *Chemical Abstracts on Microfilm*, the entire collection of *Chemical Abstracts*. *Chemical Abstracts on Microfilm*, which is organized in chronological order from 1907 to the present, is comprised of 64 volumes and must be purchased as a set. After the initial shipment of microfilm, the subscriber receives printed issues weekly and microfilmed abstracts every six to eight weeks. Many libraries maintain a complete set of *Chemical Abstracts* for reference use.

The Chemical Abstract Service also issues several other publications and provides computerized retrieval services. For information about publications, services, and costs, write the Subscriber Information Department, Chemical Abstracts Service, Box 1378, Columbus, Ohio 43211.

American Psychological Association (APA).

The APA publisnes *Psychological Abstracts*, a monthly publication containing abstracts and an index to literature in psychology published throughout the world. This publication contains abstracts for more than 15,000 documents each year. Topics include test construction, learning, attitudes and adjustment, programmed learning, and other subjects of interest to the teacher and investigator. The Association also issues other publications concerning psychology. For information about publications, write the American Psychological Association, 1200 17th Street, N.W., Washington, D.C. 20036.

Educational Products Information Exchange (EPIE).

This agency is a division of the Institute for Educational Development. Its function is to acquire, index, and disseminate information concerning instructional materials used in schools, preschool

through the junior college. The agency is publishing the *EPIE Forum* which lists new materials that are available and describes techniques for their evaluation. For information, contact Educational Products Information Exchange, 52 Vanderbilt Avenue, New York, New York 10017.

Suggestions for Requestors

The type of request you submit will have a definite effect on the response you receive. Basic suggestions for requestors were obtained from several information agencies. These are as follows:

1. *Direct the question to the proper information agency.* Agencies frequently receive inquiries which do not deal with their areas of specialization and which they are not in the position to service. Requestors should become familiar with the general scope of the various information agencies in their fields.

2. *Communicate your inquiry as clearly and directly as possible.* Most agencies prefer to receive typed inquiries. Typed requests are easier to read, and words can be interpreted more accurately. Check the terminology you have used in your request. If a word has multiple meanings, you should explain the meaning of word as you are using it. (Because of the problems of terminology, many agencies providing retrieval services prefer telephoned requests.) Finally, be as precise as you can in framing your inquiry. A precise inquiry will usually receive careful attention and provide materials more appropriate to your problem.

3. *Be specific when framing your inquiry.* On occasion information agencies receive requests for "all the information that is new" in the specific area. Such requests cannot be filled and reduce the probability of obtaining information desired.

ESTABLISHING A RESOURCE CENTER

Since there are many sources of information available we recommend that a school district establish a local information resource center which could be established as a function of the school resource center or the library. The information resource center would obtain publications and extensive descriptions of the services of such organizations as those described in this newsletter. A librarian or resource specialist could manage the collection and maintain files on current materials. If certain publications could not be purchased for the local collection, then information regarding their location could be recorded. The information resource center could use feedback from the investigators, teachers, and curriculum specialists who would use the information sources obtained from the facility. The feedback could then be used to evaluate the completeness of the local collection as well as the accuracy and relevance of the responses obtained from information agencies. Finally, it could be used to determine current and projected information needs.

The availability of microfilm material indicates that such equipment as microfilm (microfiche) readers and reader-printers would be needed for a local information resource center. Microfiche is inexpensive and requires very little storage space. Hence, it is an excellent way to input documents.

ERIC Information Analysis Center
for Science Education
1460 West Lane Avenue
Columbus, Ohio 43221

SEIAC Science Education Information Analysis Center
NEWSLETTER
AN ERIC CENTER

CENTER COMMENTS

ERIC DOCUMENT
REPRODUCTION SERVICE

RESEARCH IN EDUCATION

ED 011 933

OUTDOOR EDUCATION PROGRAM DESCRIPTIONS

Outdoor education programs have received considerable attention during the last several years and interest in establishing new programs in this area is continuing. The SEIAC staff has compiled this directory of outdoor education programs to provide information for schools or organizations planning to develop such programs. Entries are listed alphabetically by states. Each entry contains the name of the person to contact for additional information, the address of the project, and a brief description of each project.

ARKANSAS

El Dorado

Multi-Media Instructional Center
James M. Riley, Coordinator
1115 West Hillsboro
El Dorado, Arkansas 71730

A multi-media instructional center including an outdoor living laboratory is being planned. The outdoor laboratory will include an extensive collection of native plants of the Southwest and an amphitheater for group meetings.

CALIFORNIA

Fresno

Central California Laboratory for Learning-Extension
Harold L. Coles, County Superintendent of Schools
2314 Mariposa Street
Fresno, California 93721

A three-week summer outdoor program to acquaint sixth graders with the ecological resources of the region was planned. The students were to spend one week in coastal areas, one week in mountain-forest areas, and one week exploring a metropolitan urban area.

Napa

Experimental Forest
J. Win Payne, Superintendent
Napa Valley Unified School District
1750 First Street
Napa, California 94558

Science students will use an experimental forest for research with potential school dropouts studying basic subjects and procedures applicable to forest work. A curriculum core will be designed to lead regular students to an understanding of various aspects of natural science.

Sacramento

Superior California Educational
Resources Agency
Blaine Wishart, Executive Director
1854 Fulton Avenue
Sacramento, California 95825

Plans are underway for science centers which would provide field and laboratory experiences in natural history and the sciences, use mobile laboratory units and natural areas, expand a local junior museum, and develop a conservation camp.

San Andreas

Conservation, Recreation and Outdoor
Science School (Project CROSS)
Charles R. Baker, Director
Pupil Personnel Service and School Psychologist
P. O. Box 518
San Andreas, California 95249

A vocational school for potential dropouts and the non-college bound is being designed for eleventh and twelfth grade students. Experiences in conservation, recreation, and outdoor sciences will be included.

San Lorenzo

Natural History Museum and Research Center
Wesley D. Gordon, Coordinator of Science
San Lorenzo Unified School District
15510 Usher Street
San Lorenzo, California 94580

A natural history museum and research center are being planned. Students will do research on a real-life level, studying such unsolved ecological problems as local conservation needs, movements along a geological fault, and recovery of fossil vertebrates.

Santa Ana

A Marine Pilot Program Grant
Mr. F. A. Grunefelder
Orange County Superintendent of
Schools Office
1104 West Eighth Street
Santa Ana, California

A program in marine studies is being conducted. A model floating marine field training laboratory is being used to teach secondary school students about the area's major resource, the sea.

Stockton

Northern San Joaquin Valley Counties
Supplementary Education Center
Gaylord A. Nelson
222 East Weber Avenue
Stockton, California 95202

A center is being planned to serve the educational and cultural needs of students. Special facilities being considered to improve science and conservation studies include a spaceatorium, mobile laboratories, and an outdoor science and conservation laboratory.

COLORADO

Alamosa

Cooperative Summer School Camp
Roy G. Brubacher, Executive Director
San Luis Valley Board of Cooperative Services
Alamosa, Colorado 81101

A six-county cooperative summer school camp designed to serve gifted, retarded, and educationally and culturally deprived school children is being planned. Programs related to broad curricular needs, including emphases in drama, recreational outdoor living, and a science camp for the gifted, are projected.

Alamosa

Cooperative Summer School Camp
Roy G. Brubacher, Consultant
Boards of Cooperative Services
Adams State College
Alamosa, Colorado 81101

More than ten individual camps were operated for students from six counties in Colorado. The camps included one for the physically handicapped and another for children with learning handicaps. Other camps conducted programs in art, drama, geology, biology, music,and international relations.

Commerce City

An Action-Oriented Curriculum to Improve Motivation of High School Boys
John G. Stuart, Superintendent
Adams County School District 14
4720 East 69th Avenue
Commerce City, Colorado 80022

A year-round program will be designed to reduce high-delinquency, absenteeism, and high dropout rates among high school boys. Curriculum changes in science, vocational education, and other areas will be incorporated in outdoor programs emphasizing community service.

CONNECTICUT

Avon

Talcott Ridge Science Center for Student Involvement
Avon Board of Education
Donald P. LaSalle, Science Coordinator
Avon Junior-Senior High School
West Avon Road
Avon, Connecticut

A mountaintop science center, including a planetarium, observatory, weather station, and seismograph, serve all school levels in programs of instruction and research.

DELAWARE

Greenwood

Pilot Nature Center Program
C. Fred Graef, Chief School Officer
Greenwood Consolidated School, No. 91
Greenwood, Delaware 19950

A nature center, an interior court with shrubs, ponds, and trees, is being planned to serve as a focus for all natural science activities in grades 1-12.

Newark

Outdoor Laboratory
Wilmer E. Shue, Superintendent of Schools
83 East Main Street
Newark, Delaware 19711

An outdoor education laboratory will be developed in a 40-acre park to enrich the science curriculum in grades 1-12. The project site will be developed, and inservice education will be provided for teachers.

FLORIDA

Lake City

Trace-3 Rivers Activities Center for Education
Buford H. Galloway
Superintendent of Public Instruction
Columbia County Board of Public Instruction
P. O. Box 1148
Lake City, Florida 32055

An activities center designed to serve all the students in a six-county area will be utilized to provide an integrated program of physical education and music. An outdoor museum will make use of the abundant natural and historical resources of the area.

Pensacola

Escambia-Santa Rosa Humanities
Curriculum Center
James E. Hall
Superintendent of Public Instruction
P. O. Box 1470
Pensacola, Florida 32502

A humanities curriculum development center is being planned to serve students in grades K-12. Included is an outdoor biology laboratory, a solarium, an aquarium, and facilities for inservice education and curriculum development.

Perry

Resource-Use Outdoor Education Center
Alan E. Hart, Superintendent of
Public Instruction
Taylor County Board of Public Instruction
P. O. Box 509
Perry, Florida 32347

A center for instruction in conservation and natural resources serves students and teachers from six counties. A proposed forestry complex will include a forestry museum, camping facilities, and nature trails. Conferences, teacher inservice education sessions, and camping are conducted on school weekends and during summers.

Sarasota

Sarasota County Educational
Enrichment Centers
Dr. Thomas W. Gulford
Superintendent of Public Instruction
2418 Halton Street
Sarasota, Florida

A four-county educational service and enrichment center, with objectives related to the total curriculum, is being planned. Projected facilities for the out-of-doors phase of the program include a marine research and teaching laboratory, a mobile field laboratory, an earth-space laboratory, a teaching greenhouse, ponds, and a wildlife campsite.

GEORGIA

Clarkston

Fernbank Science Center
Dr. Lewis Shelton
De Kalb College
555 N. Indian Creek Road
Clarkston, Georgia

A science center includes acres of virgin forest, a planetarium, an observatory, a natural history museum, a greenhouse, research facilities and a science laboratory. The center serves more than 70,000 students as well as numerous other residents in the community. A career center is designed to encourage students to enter the scientific and technological professions.

IDAHO

American Falls

Program of Outdoor Education--A Cultural
and Educational Summer Program for
Entering Seventh Grade Pupils in the
Twenty-two Southern Counties of Idaho
William Thomas, District Superintendent
827 Fort Hall Avenue
American Falls, Idaho 83211

An outdoor education program is designed to help seventh graders entering junior high school to make the transition from elementary school. Activities include science, physical education, history and experiences in community living.

Coeur d'Alene

Program of Outdoor Education
S. Clay Coy
Superintendent of Schools
School District #271
118 North Seventh Street
Coeur d'Alene, Idaho 83814

A cultural and educational summer program for seventh grade pupils is being planned. The program has broad objectives, is being planned by a committee with varied interests, and will include such specialized instruction as nature study.

ILLINOIS

Crystal Lake

A School-Community Outdoor Education Project
Corbyn Hamby, Superintendent
School District No. 47
27 North Main Street
Crystal Lake, Illinois 60014

An outdoor instructional center, including a mobile laboratory, is being designed to offer science instruction in a natural outdoor setting. An inservice and curriculum development facility is planned also.

Dekalb

Regional Natural Resource Education
and Demonstration Center
Beverly H. Southern
Littlejohn School
Dekalb, Illinois 60115

A 55-acre outdoor lab and resource center will be used for science and social studies programs in natural resource and conservation education. Sites will be developed for such uses as field trips, nature trails, scientific observation and study, and small farm operations.

Marion

Regional Cooperative Outdoor Education Program
Orland Stanley, Superintendent of Schools
Community Unit School District No. 2
1410 West Hendrickson Street
Marion, Illinois 62959

A program of outdoor education includes science, mathematics, art, and conservation activities for children in grades K-6. Two mobile units equipped with instructional materials will be used in the program.

Palatine

E. S. Castor, Superintendent
Community Consolidated School District 15
Washington Court
Palatine, Illinois 60067

Plans are being developed for a farm-outdoor center which will serve such curricular areas as economics, local history, farming, ecology, conservation, local flora and fauna, and mathematics.

INDIANA

Gary

Deep River Outdoor Education Center
Lee R. Gilbert, Superintendent
Community School Corporation
620 East 10th Place
Gary, Indiana 46402

An outdoor education center provides facilities where students may participate in camping and other activities to supplement the regular curriculum. Cultural and educational enrichment opportunities will be provided students who may not have experienced outdoor activities.

IOWA

Cedar Rapids

Summer Outdoor Education Project
S. W. Wiley, Superintendent of Schools
College Community Schools
R. R. #2
Cedar Rapids, Iowa 52404

A summer outdoor education program has been designed for students in grades 7-12 to provide instruction in art, mathematics, humanities, science, and physical education.

KANSAS

Topeka

Planning for Outdoor Education
Frank Colaw, Superintendent of Schools
Unified School District, #345
1124 West Lyman Road
Topeka, Kansas 66601

An outdoor camping program to serve students in grades 1-12 is planned to supplement the regular academic program during the school year. The program also will provide both educational and recreational activities during the summer.

LOUISIANA

Benton

Northwest Louisiana Supplementary Educational Center and Services--Curriculum Improvement in Science
Emmett Cope, Superintendent
P. O. Box 218
Benton, Louisiana 71006

A comprehensive science curriculum will be developed including an earth-space science course, independent study programs, and such special facilities as an observatory, a planetarium, a greenhouse, and indoor laboratories. A professional laboratory is being planned for use in teacher inservice education.

St. Martinville

St. Martin Parish School Board
Outdoor Educational Center
L. H. Boulet, Superintendent
305 Washington Street
St. Martinville, Louisiana 70582

A nature center serves as an outdoor laboratory for biology groups and as a research center for individual students working on projects. Facilities include a nature trail, a greenhouse, a weather station, an exhibit center, and numerous woods and ponds.

MAINE

South Windham

Outdoor Laboratory of Natural Environmental Science
Stanley W. Wright, Superintendent of Schools
RFD #1
South Windham, Maine 04082

An outdoor area is used as a laboratory for environmental science and conservation studies for all grades.

MARYLAND

Clarksville

A Multiphase Learning Experience Center
John E. Yingling
Superintendent of Schools
Board of Education of Howard County
Clarksville, Maryland 21209

A comprehensive program is being planned for all children in the county. Plans include outdoor education programs, inservice education, and the use of new instructional aids and materials.

Elkton

Out-of-Doors, A Summer Science Program for Elementary and Secondary School Students
Robert A. Gibson, Superintendent of Schools
Cecil County Board of Education
Booth Street Center
Elkton, Maryland 21921

This is a six-week summer course for selected science-oriented students in grades 1-12. Emphasis will be on individualized study of Maryland geography, geology, plant and animal life, and conservation.

Oakland

Indoor-Outdoor Science Center
Willard L. Hawkins, Superintendent
Board of Education of Garrett County
Oakland, Maryland 21550

Some 5,000 elementary and secondary students are being served in this program which incorporates the use of both indoor and outdoor facilities. Nature studies and camping experiences are provided by the outdoor center.

MASSACHUSETTS

Falmouth

Oceanographic Education Center
Mr. Harry S. Merson
Superintendent of Schools
Falmouth Public Schools - Box 729
Falmouth, Massachusetts 02541

An oceanographic educational center is being planned to stimulate interest in oceanography and a pilot project will be conducted to improve the science curriculum and to produce oceanographic teaching aids. The

curriculum will include conservation and natural resources.

Lowell

Environmental Arts and Science Center
Mr. Vincent M. McCartin, Superintendent
Lowell Public Schools
City Hall
Lowell, Massachusetts

Plans are being developed for innovative educational programs in conservation and natural science. Curriculum development and teacher training programs will be emphasized.

Lowell

Lowell Environmental Arts and Science Center
Vincent M. McCartin, Superintendent of Schools
City Hall
Lowell, Massachusetts 01852

An outdoor education center, including a 1000-acre forest, serves students in grades 1-12 in a program of field trips, school camps, and outdoor education. Teachers are provided inservice education by a professional staff.

Scituate

Project Lighthouse
Wilburn A. Shannon, Superintendent
Cudworth Road
Scituate, Massachusetts 02066

Oceanography, marine biology, and other marine science programs will be scheduled at nearby land and sea laboratories.

MICHIGAN

Charlotte

An Outdoor Education--Conservation
and Rural Life Regional Center
Wendell H. Anderson, County Superintendent
Eaton County Intermediate Board of Education
117 West Harris Street
Charlotte, Michigan

The center will be used as an outdoor education, conservation, and rural life laboratory. There will be facilities for the preservice and inservice education of teachers.

Coldwater

Exploring Nature's Classroom
James A. Miller, Principal
Lincoln School
Coldwater Community Schools
Coldwater, Michigan 49036

A year-round outdoor education program is being established. Such facilities as a weather station, beehives, grassy waterways, nature trails, and desert, field, and swamp habitats will be used for the study of conservation, geology, and other natural sciences.

Constantine

Outdoor Education Laboratory
Clayton Wilson, Superintendent of Schools
Constantine Public Schools
Constantine, Michigan 49042

An outdoor education laboratory is being developed for students in grades 1-12. The program will emphasize the fundamental principles of conservation and civic responsibility for natural resources.

Grand Haven

Integrating Outdoor Education with a
Flexible Academic-Vocational Curriculum
R. Von Volkinburg, Superintendent of Schools
Grand Haven City Schools
734 Park Street
Grand Haven, Michigan 49417

An outdoor education program will be integrated with the regular curriculum, and vocational emphases will be developed. Outdoor programs for elementary students will include field trips, wildlife study, and school site beautification.

MISSOURI

Edina

Biological and Soil Conservation Laboratory
Richard M. Kimble
Knox County R-I School District
P. O. Box 403
Edina, Missouri 63527

An outdoor laboratory with a lake, terraces, waterways and an area where natural trees, shrubs, and grasses will grow will be developed. Programs in science will be provided for students in grades 1-12.

Higginsville

Outdoor Laboratory in Field Ecology and
Establishment of an Ecological Museum
Lewis W. Hobson, Superintendent
Higginsville School
2116 Main Street
Higginsville, Missouri 64037

A pilot program will be established to enrich the high school curriculum. The program will include field trips and will utilize an outdoor laboratory, guest lecturers, and an ecological museum.

University City

An Outdoor Natural Science Laboratory
in University City, Missouri
Martin B. Garrison, Superintendent of Schools
640 Harvard Avenue
University City, Missouri 63130

An outdoor natural science laboratory is being planned to provide city children with outdoor experiences directed toward the problem-solving approach. Teachers will be provided inservice training.

MONTANA

Alberton

Outdoor School in Conservation
Donald A. King, Director of Outdoor School
Alberton, Montana

A seven-day residential conservation camp for sixth and seventh graders will provide field work and other instruction in conservation education.

Billings

Billings Extended School Year--Grades 1-12
William A. Serrette, Administrative Assistant
101 Tenth Street - West
Billings, Montana

The school year is to be extended seven weeks during the summer to offer remedial and enrichment courses for all students, grades 1-12, who want or need such courses. Emphasis will be on innovative learning techniques. Field biology is one of the many courses offered.

Deer Lodge

Summer Institute in Field Ecology and Field
Geology for High School Students
Norman Jacobson, Instructor
Powell County High School
Deer Lodge, Montana

A four-week summer field program will be operated for scientifically curious students in grades 7-12 to study the various life zones, from grassland to alpine tundra, and the geology of the region.

Great Falls

Planning Project for a Pilot Study in
Conservation Education
Margaret E. Adams, Elementary Consultant
P. O. Box 2669
Great Falls, Montana

A pilot project to determine the feasibility of establishing a permanent conservation education program will be planned. Activities will involve camping and field studies and the use of telelectures and mobile units.

Missoula

Proposal to Establish and Maintain
A Conservational and Wildlife Study Area
Harold G. Knapp
Missoula County High School
South Avenue and Bancroft
Missoula, Montana 59801

An outdoor conservation laboratory is being developed at a site with a variety of habitats accessible during all seasons. Program objectives include having science classes obtain experiences in biotic and abiotic communities, and enabling students to design and carry out experiments and original studies.

NEW HAMPSHIRE

Keene

Nature Study Center
Mr. Austin G. Frain
Monadnock Regional School District
Swanzey Center
Keene, New Hampshire 03431

An outdoor area is used by the schools for the study of nature, biology, earth science, art, natural resources, photography, and agriculture.

NEW JERSEY

Bordentown

3-D School
Leonard Grant
3-D School Program Director
323 Ward Avenue
Bordentown, New Jersey 08505

A pilot program will be formulated for an out-of-door school. All seventh and eighth grade students, from both public and non-public schools, will live and study for one week in this outdoor setting.

Glassboro

Conservation and Environmental Science
in Southern New Jersey
V. Eugene Vivian, Science Department Chairman
Glassboro State College
Glassboro, New Jersey 08028

An outdoor conservation and environmental science program is being planned to serve students in grades 1-12, from eight counties. Student teachers will be included in inservice programs.

Kearny

Learning Camp
Edmund L. Tink
Superintendent of Schools
100 Davis Avenue
Kearny, New Jersey 07032

An outdoor camp will provide fifth grade children in public and non-public schools with experiences in outdoor living, nature study, and conservation.

Linden

Outdoor Education
Emanuel Bedrick
Superintendent of Schools
Board of Education
Linden, New Jersey

An outdoor education center will provide year-round facilities for children in grades six, seven, and eight. Students will study nature and learn about human and natural interrelationships. These activities will be correlated with all the regular curricular subjects.

Middletown

Pilot Supplementary Elementary Science
Interpretive Program
Richard Cole
63 Tindall Road
Middletown, New Jersey

A former Coast Guard Station serves as a daycamp teaching facility for the study by fourth graders of the geology, land and marine organisms, and ecological relationships of a barrier beach.

Newark

Outdoor Conservation Education Center
Franklyn Titus, Acting Superintendent
31 Green Street
Newark, New Jersey 07102

A plan to assess ESEA Title III outdoor education projects presently in operation in the state will be designed and executed. A statewide plan for optimum utilization of New Jersey's facilities for outdoor education should emerge.

Newton

Newton Outdoor Education Project
Benton P. Cummings
Halsted Street School
Halsted Street
Newton, New Jersey

An outdoor education program offers recreation, field studies, camping, conservation education, inservice education and research opportunities. The project also includes a materials center, a mobile unit, and the area serves as a wildlife and nature preserve.

NEW MEXICO

Albuquerque

Outdoor Education Center
Robert L. Chisholm
Superintendent of Schools
Albuquerque, New Mexico

A range of curriculum experiences in the outdoors, including camping, conservation, zoology and ecology, is being planned for students and parents.

NEW YORK

Brooklyn

High Rock Nature Conservation Center
George O. Pratt, Jr., Director
High Rock Nature Conservation Center
Nevada Avenue
Staten Island, New York

A year-round program of nature study and conservation education is conducted for students from public and non-public elementary schools. The need for conservation of natural resources and for the interrelationship between these resources and planned community growth is stressed.

New Paltz

Mid-Hudson Regional Supplementary
Educational Center's: (PINE) Projects
in Imaginative Nature Education
Dr. Raymond Kenyon, Director
Mid-Hudson School Study Council
Research and Development Project
New Paltz, New York

Year-round indoor-outdoor educational programs will be conducted at a 125-acre nature center to supplement the natural science curriculum. Conservation courses in water, soils, wildlife, forests and minerals will be offered to pre-school through twelfth-grade students.

NORTH CAROLINA

Wentworth

Diversified Outdoor Education
Allan Lewis, Superintendent of Schools
Rockingham County Schools
Wentworth, North Carolina 27375

A residential outdoor education program for elementary school children, and a nature and conservation study program for all children are provided. Special emphasis will be developed for children with reading deficiencies. A camping program is also provided for the mentally retarded.

NORTH DAKOTA

Bismarck

Travelab-Horizons Unlimited--A Pilot Program
Robert P. Miller, Superintendent of Schools
400 Avenue East
Bismarck, North Dakota 58501

A bus equipped with a small laboratory, workspace, and audiovisual facilities is used for extended excursions for older students and shorter field trips for younger ones. Instruction is given enroute and on the site. This program has broad curricular emphases, including geography and biology.

OHIO

Akron

Junior Explorers--Learning Centers
(Summer Creative Learning Centers for
Elementary School Pupils)
Mrs. Theresa Haney, Director Special
Resources and Experimental Programs
Akron Public Schools
70 North Broadway
Akron, Ohio 44308

Seven centers have been established for summer training of potentially creative students in grades 4-6. Students are encouraged to learn about natural science through independent study. Features such as cave formations, burial mounds, canals, railroads and fossils are emphasized.

Mentor

Indoor-Outdoor Educational Recreational
Planning Program
Exempted Village School District
8979 Mentor Avenue
Mentor, Ohio 44060

An indoor-outdoor educational-recreational program is being designed to include activities related to all school subject areas, K-12, including the sciences and conservation.

Ontario

Mohican School in the Out-of-Doors
D. D. Rummel, Superintendent
Springfield Local Schools
Ontario, Ohio

Learning experiences in conservation, natural science, astronomy and democratic living are provided in an outdoor setting for sixth grade students who live at the camping center for one week. The staff is doing some exploratory teaching, employing a team-teaching approach.

Willoughby

Pollution, Life, and Earth
Science Enrichment
Willoughby-Eastlake City School District
38106 Euclid Avenue
Willoughby, Ohio 44094

A program is designed for the study of life science, earth science, and the problems of pollution. The Holden Arboretum is used as a supplemental outdoor center.

Worthington

Conservation Education and Outdoor
Education Laboratory
Mr. H. C. McCord, Superintendent
Worthington Exempted Village Schools
50 East Granville Road
Worthington, Ohio

A conservation and outdoor education program and laboratory are being planned to serve elementary and secondary students from two counties. The laboratory will serve as a research and demonstration center.

OKLAHOMA

Oklahoma City

Developing and Utilizing Cultural Resources
James L. Casey, Director of Federal Projects
900 North Klein
Oklahoma City, Oklahoma 73106

Cultural experiences include field trips and programs in drama, science, music, and literature. Field trips include visits to a science and arts foundation, a zoo, and a local museum. Special use is made of the zoo facilities for studies in science.

OREGON

Portland

Regional Outdoor Education Program
Errol C. Rees, Superintendent
Multnomah County Intermediate Education District
P. O. Box 9172
Portland, Oregon 97216

A program will be developed so that eventually each of the some 15,000 children in the public and private schools of metropolitan Portland may have the educational experiences of living outdoors for five days in the spring or fall.

Portland

Regional Outdoor Education Projection Program
Erroll C. Rees, Superintendent
Multnomah County Intermediate Education District
P. O. Box 9172
Portland, Oregon 97216

A long-range outdoor education program is provided for sixth grade students from five counties. The program is designed to help students develop an interest in natural resources, while living at a camp.

PENNSYLVANIA

Bellefonte

Central Pennsylvania Outdoor Education Project
T. Ellwood Sonen, Superintendent
Centre County Board of Education
Courthouse
Bellefonte, Pennsylvania 16923

An outdoor program, featuring direct experiences in both resident and non-resident activities, is provided for children in grades K-6. Teachers receive inservice education.

Duncansville

Charles S. Hertzog, President
Appalachian Regional Instructional
Materials Center Joint Committee
309 Columbus Avenue
Cresson, Pennsylvania 16630

A pilot program in outdoor education employs a new curriculum in the natural and social sciences. The program is designed to help students achieve a greater

awareness of the interrelationships between natural resources, cultural and physical anthropology, and social development.

Erie

Hughes Brininger, Director of Secondary Education
Millcreek Schools
3580 West 38th Street
Erie, Pennsylvania 16506

A program, based on area resources, is being planned to provide a variety of activities and services for students in grades 1-12. Experiences projected include field trips, advanced summer courses in botany, local history, gardening, nature study, and experimental workshops for teachers.

Glenside

Science Center
T. R. Frank, Principal
Glenside-Weldon School
409 Easton Road
Glenside, Pennsylvania

How to make effective use of a bird observatory and nature center as a "living laboratory" for the study of natural sciences and conservation is the purpose of two projects.

Lima

Study to Determine the Educational Potential of the Tyler Arboretum and the Jeffords State Park
Dr. Stanley C. Campbell, Superintendent
Rose Tree Union School District
Box 188
Lima, Pennsylvania

Plans are being developed for the use of an arboretum and a state park for educational purposes, including field observation, conservation, experimental planting, bird census and study, practical horticulture, and teacher inservice education.

Philadelphia

Supplementary Educational Center and Services Camping Program for Educationally Deprived, Emotionally Disturbed Children
Dr. Jerry G. Miller, Director
Division of Special Education
School District of Philadelphia
Benjamin Franklin Parkway at 21st Street
Philadelphia, Pennsylvania

Special education services are being extended to provide 60 days of day and overnight camping to emotionally disturbed and educationally disadvantaged children, ages 5-1/2 to 9. The camping program is offered during the summer and on weekends during the school year.

University Park

Dr. Jerrold E. Elliott, Director
Stone Valley Recreation Area
The Pennsylvania State University
University Park, Pennsylvania 16802

An outdoor program is being provided children in grades K-6 through direct experiences in resident and non-resident programs. One objective is to help children better understand the interrelationships of man and his environment. Teachers are to have an inservice program and a three-week summer workshop.

TENNESSEE

Memphis

E. C. Stimbert, Superintendent
Memphis City Schools
2597 Avery Avenue
Memphis, Tennessee 38112

A regional science center is being planned to provide science programs and enrichment activities for pupils from grades 1-16 and inservice education for teachers. Facilities and activities planned include mobile science units, an observatory and planetarium, a natural science museum, field trips, individual research, and long-range science projects in biology, chemistry and astronomy.

TEXAS

Corpus Christi

Coastal Bend Educational Project: Outdoor Education and Human Development
W. H. Howard
2505 Waldron Road
Corpus Christi, Texas

The purpose of this project is to organize centers where programs in outdoor education, human development, and conservation will be provided students K-12. Both current teachers and potential future teachers will help in the planning.

Freeport

Brazosport Education Extension Center
Division of Instructional Services
P. O. Drawer Z
Freeport, Texas 77541

Planning is underway to raise the quality of instruction. Included is an extensive project in teacher inservice education. Facilities considered include a school demonstration center, an instructional resources center, a work center, an exhibit display center, and mobile exhibits. Specific programs considered for students involve local museums, outdoor programs, science centers and school camps.

Houston

Texas Gulf Coast Science Educational
Resources Center
Houston Independent School District
1300 Capitol
Houston, Texas 77002

A Science Educational Resources Center serving 500,000 elementary and secondary school students is proposed. Some activities of the projected center include establishing procedures for scientific field trips, conducting inservice programs, and establishing a traveling museum.

New Braunfels

Educational Project for Natural Resources
Conservation
Max Wommack, County School Superintendent
Comak County Court House
New Braunfels, Texas 78130

A natural resources conservation program is being planned to provide demonstrations, educational exhibits, tours, teaching materials, and visual aids to portray the problems related to conservation of range, wildlife, soil, water, and forestry.

UTAH

American Fork

An Outdoor Educational Curriculum for
All Seasons in Utah County
Don W. Peterson, Superintendent
Alpine School District
50 North Center
American Fork, Utah 84003

National forestry, park, and conservation agencies are helping to plan a curriculum for grades K-12 that will include geology, problems of erosion and pollution, and study of lake, mountain, and desert areas.

American Fork

Outdoor Education Camp
Dr. Stanley A. Leavitt
Federal Program Director
Alpine School District
50 North Center
American Fork, Utah 84003

An outdoor education camp is being planned that will utilize Utah's mountainous terrain as a setting to increase student understanding of conservation and natural sciences. Procedures developed for organizing outdoor education programs will be made available to other interested school districts.

WASHINGTON

Seattle

Interdisciplinary Outdoor Education Program
Edgar F. Neal, Specialist in Outdoor Education
Shoreline School District No. 412
N. E. 158th and 20th
Seattle, Washington 98155

Outdoor learning centers are being planned on underdeveloped land set aside by the state for educational purposes. Programs will be designed to help young people keep their sense of wonder about the natural world.

Seattle

Interdisciplinary Outdoor Education Program
Edgar F. Neal, Specialist in Outdoor Education
Shoreline School District No. 412
N. E. 158th and 20th
Seattle, Washington 98155

School grounds are used for nature study. Students use a site on a salt water beach to develop nature trails and an area for biology, English, and art classes.

WISCONSIN

Stevens Point

Cooperative Work-Learn Conservation
and Resource-Use Program
Dr. Paul A. Yambert
Wisconsin State University
Stevens Point, Wisconsin 54481

Program will provide practical experiences in conservation education for children in grades 1-12 through a series of two-week summer field experiences. Program objectives center around encouraging student awareness of resource management. Projects will include stream repair, forest tree planting, live trapping of animals for research, and nature trail development.

WYOMING

Lander

Conservation Center of Creative Learning
Jerry Ruzicka
Ninth and Sweetwater Streets
Lander, Wyoming 82520

An ecology-oriented center and workshop is being planned to improve the teaching of conservation for students in Wyoming and surrounding states.

GPO 808-148

SEIAC NEWSLETTER

AN ERIC CENTER

CENTER COMMENTS

The ERIC Information Analysis Centers are placing increasing emphasis on collection and analysis of documents. Documents collected and analyzed by the Centers are announced in [illegible]. Information analysis products of this Center, including bibliographies and research reviews, are also announced in [illegible]. Usually these publications will be available through the ERIC Document Reproduction Service.

Beginning September 1, 1968, this Center will provide unix prepackaged materials to users. A variety of information analysis products are being developed to provide information for many groups of users. These will be announced in the SEIAC Newsletter as they are available.

BIBLIOGRAPHIES AVAILABLE

A limited supply of five bibliographies announcing the first 2,000 documents processed by this Center are available. These bibliographies will also be available on microfiche and at a later date from the ERIC Document Reproduction Service. Bibliographies currently available are Bibliography 5, Teacher Resource Materials; Bibliography 7, Science and Society, History of Science Education, Science History, General Studies and Surveys; Bibliography 8, Legislative Acts and Reports, Administration and Supervision Science Facilities; Bibliography 9, Evaluation, Educational Objectives, Learning Theories and Processes, Research Methodology; and Bibliography 10, Teacher Characteristics, Student Characteristics, Guidance and Counseling.

DOCUMENTS AVAILABLE THROUGH EDRS

The Center has received many requests for a list of documents related to science and mathematics education that are available through the ERIC Document Reproduction Service (EDRS). Information analysts have reviewed all issues of [illegible] through December, 1967, [illegible] and [illegible]. This issue of the SEIAC Newsletter contains a listing of documents related to science education from these three sources. The documents are listed according to the publication in which they were announced.

Author, title, descriptor information and prices are provided for each document. Prices listed are current EDRS prices. When ordering documents, be certain to include the ERIC Document number of each document and indicate whether you desire microfiche (MF) or hard copy (HC). If your order does not exceed $3.00, a 50¢ handling charge should be included. Requests for documents should be addressed to EDRS, The National Cash Register Company, 4936 Fairmont Avenue, Bethesda, Maryland 20014.

OUTDOOR EDUCATION PROGRAM DESCRIPTIONS AVAILABLE

A limited supply of Newsletter 3 listing examples of various kinds of outdoor education programs in the United States is available. Each entry in the directory contains the name of the person to contact for additional information, the address of the project, and a brief description of each project. Single copies of the newsletter are available on request.

NUMBER OF SCIENCE AND MATHEMATICS EDUCATION DOCUMENTS INCREASING IN RESEARCH IN EDUCATION

[illegible] (RIE), the publication that lists selected abstracts of documents processed by the ERIC Information Analysis Centers, continues to become larger and to contain more documents of interest to persons concerned about science and mathematics education. Each future issue of [illegible] will contain approximately 10 to 60 documents processed by the ERIC Information Analysis Center for Science Education. If you haven't subscribed to RIE you will miss announcements of many recent research reports, curriculum materials, and other selected documents.

ED 017 933

SCIENCE EDUCATION REPORTS
IN
U.S. OFFICE OF EDUCATION RESEARCH REPORTS, 1956-1965

ED 002 864
IDENTIFICATION OF GIFTED ELEMENTARY SCHOOL CHILDREN WITH EXCEPTIONAL SCIENTIFIC TALENT.
LESSER, GERALD S. DAVIS, FREDERICK B.
CITY UNIVERSITY OF NEW YORK, HUNTER COLLEGE
EDRS PRICE MF-$0.50 HC-$2.56 64P.
PUB DATE 1 SEPT 60
DESCRIPTORS- *IDENTIFICATION, *PREDICTIVE VALIDITY, *SCIENCES, *TALENTED STUDENTS, *TEST CONSTRUCTION, ABILITY IDENTIFICATION, ELEMENTARY SCHOOL STUDENTS, GIFTED, GRADE 3, HUNTER SCIENCE APTITUDE TEST, NEW YORK, NEW YORK CITY, SUPERIOR STUDENTS.

ED 002 874
CAREER DEVELOPMENT OF SCIENTISTS, AN OVERLAPPING LONGITUDINAL STUDY.
COOLEY, WM. W.
HARVARD UNIV.,
CAMBRIDGE, MASS.
GRAD. SCH. OF EDUC.
EDRS PRICE MF-$0.75 HC-$7.80 195P.
PUB DATE 63
DESCRIPTORS- *CAREER PLANNING *OCCUPATIONAL CHOICE, *SCIENCE CAREERS, SCIENCE EDUCATION, ACADEMIC ABILITY, CAMBRIDGE, FACTOR ANALYSIS, MASSACHUSETTS, SOCIOECONOMIC STATUS, STUDENT EVALUATION, VOCATIONAL COUNSELING, VOCATIONAL INTERESTS.

ED 002 889
AN ANALYSIS OF THE FACTORS RELATED TO THE MOTIVATION AND ACHIEVEMENT OF STUDENTS IN SCIENCE COURSES IN THE JUNIOR AND SENIOR HIGH SCHOOL, FINAL REPORT.
MALLINSON, GEORGE G.
WESTERN MICHIGAN UNIV., KALAMAZOO
SCH. GRAD. STUDIES.
EDRS PRICE MF-$1.00 HC-$8.12 203P.
PUB DATE 63
DESCRIPTORS- *ACADEMIC ACHIEVEMENT, *HIGH SCHOOL STUDENTS, *SCIENCE COURSES, *STUDENT MOTIVATION, *TESTING PROGRAMS, FACTOR ANALYSIS, INTELLIGENCE, INTERESTS, KALAMAZOO, MICHIGAN, PARENT INFLUENCE, READING ABILITY, STUDENT TEACHER RELATIONSHIP, TEACHING METHODS.

ED 002 914
FACILITIES AND EQUIPMENT AVAILABLE FOR TEACHING SCIENCE IN PUBLIC HIGH SCHOOLS, 1958-59.
SOLBERG, ARCHIE N. KOELSCHE, CHARLES L.
TOLEDO UNIVERSITY, OHIO, RESEARCH FOUNDATION
EDRS PRICE MF-$0.50 HC-$3.20 80P.
PUB DATE 59
DESCRIPTORS- *FACILITIES, *HIGH SCHOOLS, *SCIENCE EDUCATION, *SCIENCE EQUIPMENT, BUDGETTING, EDUCATIONAL FACILITIES, EFFECTIVE TEACHING, EXPENDITURES, LABORATORIES, LABORATORY EQUIPMENT, OHIO, STATISTICAL SURVEYS, TOLEDO.

ED 002 915
PSYCHOLOGICAL PROBLEMS AND RESEARCH METHODS IN MATHEMATICS TRAINING.
DU BOIS, PHILIP M. FEIERABEND, ROSALIND L.
WASHINGTON UNIV., ST. LOUIS, MO.
EDRS PRICE MF-$1.00 HC-$8.84 221P.
PUB DATE JUN 59
DESCRIPTORS- *CURRICULUM GUIDES, *LEARNING PROCESSES, *MATHEMATICS INSTRUCTION, *RESEARCH METHODOLOGY, CONFERENCES, MANUALS, MATHEMATICAL EXPERIENCE, MISSIOURI, PSYCHOEDUCATIONAL PROCESSES, ST. LOUIS, SURVEYS, TEACHING TECHNIQUES.

ED 002 923
EVALUATION AND FOLLOWUP STUDY OF A SUMMER SCIENCE AND MATHEMATICS PROGRAM FOR TALENTED SECONDARY SCHOOL STUDENTS.
COOLEY, WM. W. BASSET, ROBT. D.
HARVARD UNIV.,
CAMBRIDGE, MASS., GRAD. SCH. OF EDUC.
EDRS PRICE MF-$0.50 HC-$4.68 117P.
PUB DATE 30 JUN 60
DESCRIPTORS- *MATHEMATICS CURRICULUM, *SCIENCE COURSES, *SECONDARY SCHOOL STUDENTS, *SUMMER PROGRAMS, *TALENTED STUDENTS, CAMBRIDGE, EDUCATIONAL IMPROVEMENT, RESEARCH SKILLS, SCIENCE CAREERS.

ED 002 936
WHY SUCCESSFUL STUDENTS OF THE NATURAL SCIENCES ABANDON CAREERS IN SCIENCE.
NORDSTRON, CARL FRIEDENBERG, EDGAR Z.
UNIV., OF NEW YORK, BROOKLYN COLL.
EDRS PRICE MF-$0.50 HC-$4.24 106P.
PUB DATE JUN 61
DESCRIPTORS- *CAREER PLANNING, *CHANGING ATTITUDES, *NATURAL SCIENCE, *OCCUPATIONAL CHOICE, *SCIENCE CAREERS, BROOKLYN, NEW YORK.

ED 003 043
USE OF BIOGRAPHICAL INFORMATION ON STUDENTS WHO DO AND DO NOT ACHIEVE IN HIGH SCHOOL SCIENCE COURSES.
CLINE, VICTOR B. AND OTHERS
UTAH UNIV., SALT LAKE CITY
EDRS PRICE MF-$0.50 HC-$3.76 94P.
PUB DATE 63

DESCRIPTORS- *HIGH SCHOOLS, *PREDICTIVE ABILITY (TESTING), *SCIENCE COURSES, *SELF EVALUATION, ABILITY IDENTIFICATION, ACADEMIC PERFORMANCE, ACHIEVEMENT RATINGS, BIOGRAPHICAL INFORMATION BLANK (BIB), BIOGRAPHIES, FACTOR ANALYSIS, MEASURING INSTRUMENTS, PREDICTIVE VALIDITY, SALT LAKE CITY, SCIENCE CAREERS, SECONDARY SCHOOL STUDENTS, UTAH.

ED 003 181
EFFECTS OF INSERTED QUESTIONS IN FILMS ON DEVELOPING AN UNDERSTANDING OF CONTROLLED EXPERIMENTATION.
VUKE, GEO. J.
INDIANA UNIV.,
BLOOMINGTON, SCH. OF EDUCATION.
EDRS PRICE MF-$0.50 HC-$2.56 64P.
PUB DATE FEB 62
DESCRIPTORS- *GRADE 7, *INSTRUCTIONAL FILMS, *MEDIA RESEARCH, *QUESTIONING TECHNIQUES, *SCIENCE EDUCATION, *STATISTICAL ANALYSIS, BLOOMINGTON, COMPARATIVE ANALYSIS, EDUCATIONAL RESEARCH, FILMS, INDIANA, JUNIOR HIGH SCHOOLS

ED 003 194
EFFECT OF VARIED PRESENTATIONS OF LABORATORY EXERCISES WITHIN PROGRAMED MATERIALS ON STUDENT ABILITY TO APPLY SCIENTIFIC PRINCIPLES TO PROBLEM SITUATIONS.
NASCA, DONALD
STATE UNIV. OF N.Y., BROCKPORT
EDRS PRICE MF-$0.50 HC-$3.48 87P.
PUB DATE 30 APR. 64
DESCRIPTORS- *GRADE 8, *LABORATORY EXPERIMENTS, *SCIENCE INSTRUCTION, *TEACHING METHODS, BROCKPORT, NEW YORK, PROGRAMED INSTRUCTION, SCIENTIFIC METHODOLOGY.

ED 003 200
THE INFLUENCE OF EXTERNAL PACING ON LEARNING FROM PROGRAMED INSTRUCTION, REPORT-STUDIES IN TELEVISED INSTRUCTION, INDIVIDUALIZING GROUP INSTRUCTION.
GROOPER, GEO. L. KRESS, GERARD C., JR.
METROPOLITAN PITTSBURGH ED. TV STATION, PA.
EDRS PRICE MF-$0.50 HC-$2.52 63P.
PUB DATE NOV 64
DESCRIPTORS- *INDIVIDUALIZED PROGRAMS, *PACING, *PROGRAMED INSTRUCTION, *SCIENCE EDUCATION, *TELEVISED INSTRUCTION, ACADEMIC PERFORMANCE, BEHAVIOR PATTERNS, GRADE 8, HIGH ACHIEVERS, LEARNING PROCESSES, LOW ACHIEVERS, PENNSYLVANIA, PITTSBURGH, SELF PACING MACHINES, STUDENT TESTING, TIME FACTORS (LEARNING).

ED 003 201
ACCOMMODATING INDIVIDUAL DIFFERENCES DURING EXTERNALLY PACED PROGRAMED INSTRUCTION, REPORT 3—STUDIES IN TELEVISED INSTRUCTION.
GROPPER, GEORGE L. KRESS, GERARD C., JR.
METROPOLITAN PITTSBURGH EDUC. TV. STATION, PA.
EDRS PRICE MF-$0.50 HC-$3.00 75P.
PUB DATE NOV 64

DESCRIPTORS- *FIXED SEQUENCE, *INDIVIDUAL DIFFERENCES, *PACING, *PERFORMANCE, *SCIENCE INSTRUCTION, *TIME FACTORS (LEARNING), ACADEMIC PERFORMANCE, BEHAVIOR PATTERNS, GRADE 8, HIGH ACHIEVERS, INDIVIDUALIZED PROGRAMS, LEARNING PROCESSES, LOW ACHIEVERS, PENNSYLVANIA, PERFORMANCE FACTORS, PITTSBURGH, PROGRAMED INSTRUCTION, STUDENT TESTING, TELEVISED INSTRUCTION.

ED 003 202
A SUMMARY REPORT, REPORT 4—STUDIES IN TELEVISED INSTRUCTION, INDIVIDUALIZING GROUP INSTRUCTION.
GROPPER, GEO. L. KRESS, GERARD C., JR.
METROPOLITAN PITTSBURGH EDUC. TV STATION, PA.
EDRS PRICE MF-$0.25 HC-$1.00 25P.
PUB DATE NOV 64
DESCRIPTORS- *INDIVIDUALIZED PROGRAMS, *PACING, *PERFORMANCE, *PROGRAMED INSTRUCTION, *SCIENCE EDUCATION, *TELEVISED INSTRUCTION, ACADEMIC PERFORMANCE LEARNING PROCESSES, PENNSYLVANIA, PITTSBURGH, SELF PACING MACHINES, TIME FACTORS, LEARNING.

ED 003 205
ATOMIC PHYSICS, AN AUTOINSTRUCTIONAL PROGRAM, VOLUME 2, SUPPLEMENT.
KLAUS, DAVID J. DETERLINE, WM. A.
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$1.00 HC-$8.04 201P.
PUB DATE 61
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *NUCLEAR PHYSICS, *PHYSICS INSTRUCTION, *PROGRAMED TEXTS, EXPERIMENTAL PROGRAMS, LEARNING PROCESSES, PENNSYLVANIA, PITTSBURGH.

ED 003 206
ATOMIC PHYSICS, AN AUTOINSTRUCTIONAL PROGRAM, VOLUME 3, SUPPLEMENT
KLAUS, DAVID J. DETERLINE, WILLIAM A.
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$1.00 HC-$8.48 212P.
PUB DATE 61
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *NUCLEAR PHYSICS, *PHYSICS INSTRUCTION, *PROGRAMED TEXTS, EXPERIMENTAL PROGRAMS LEARNING PROCESSES, PITTSBURGH, PENNSYLVANIA

ED 003 207
ATOMIC PHYSICS, AN AUTOINSTRUCTIONAL PROGRAM, VOLUME 4, SUPPLEMENT.
KLAUSE, DAVID DETERLINE, WILLIAM A.

AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$0.75 HC-$7.28 182P.
PUB DATE 61

DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *NUCLEAR PHYSICS, *PHYSICS INSTRUCTION, *PROGRAMED TEXTS, EXPERIMENTAL PROGRAMS, LEARNING PROCESSES, PENNSYLVANIA, PITTSBURGH.

ED 003 214
ELEMENTARY ELECTRONICS LABORATORY
DETERLINE, WM. A., KLAUS, DAVID J.
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$0.50 HC-$4.68 117P.
PUB DATE 61
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *ELECTRONICS, *INSTRUCTIONAL MATERIALS, ELECTRONIC EQUIPMENT, PENNSYLVANIA, PITTSBURGH, TASK PERFORMANCE.

ED 003 215
ELEMENTARY ELECTRONICS, AN AUTOINSTRUCTIONAL PROGRAM FOR JUNIOR HIGH SCHOOL STUDENTS.
DETERLINE, WM. A. KLAUS, DAVID J.
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$0.75 HC-$6.12 153P.
PUB DATE 61
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *ELECTRONICS, *INSTRUCTIONAL MATERIALS, *PROGRAMED TEXTS, ELECTRICITY, PENNSYLVANIA, PITTSBURGH, PROGRAMED INSTRUCTION, RADIO.

ED 003 295
COMPUTER GRADING OF PHYSICS LABORATORY REPORTS.
WEAVER, HARRY T. CARR, HOWARD E.
AUBURN UNIV., ALA.
EDRS PRICE MF-$0.25 HC-$1.28 32P.
PUB DATE 62
DESCRIPTORS- *COMPUTER PROGRAMS, *COMPUTERS, GRADING, *PHYSICS, ALABAMA, AUBURN, DIGITAL COMPUTERS, MEASUREMENT, PHYSICS EXPERIMENTS, SCORING.

ED 003 318
A COMPARISON OF THREE METHODS OF TEACHING ELEMENTARY SCHOOL SCIENCE INVOLVING PROGRAMED LEARNING.
HEDGES, WM. D. MACDOUGALL, MARY A.
VIRGINIA UNIV., CHARLOTTESVILLE.
EDRS PRICE MF-$0.75 HC-$7.12 178P.
PUB DATE 65
DESCRIPTORS- *PROGRAMED INSTRUCTION, *PROGRAMED MATERIALS, *SCIENCE INSTRUCTION, CHARLOTTESVILLE, COMPARATIVE ANALYSIS, ELEMENTARY EDUCATION, GRADE 4, PERFORMANCE, VIRGINIA.

ED 003 335
METHODS OF PROGRAMED INSTRUCTION RELATED TO STUDENT CHARACTERISTICS.
WOODRUFF, A. BOND AND OTHERS
NORTHERN ILL. UNIV., DE KALB
EDRS PRICE MF-$0.75 HC-$6.64 166P.
PUB DATE 65

DESCRIPTORS- *ACHIEVEMENT GAINS, *EVALUATION, GENERAL SCIENCE, *GRADE 8, *PROGRAMED INSTRUCTION, DE KALB, ILLINOIS, LEARNING PROCESSES, PERFORMANCE, STUDENT CHARACTERISTICS.

ED 003 456
TEACHING SCIENTIFIC THINKING AT THE HIGH SCHOOL LEVEL.
SHOCKLEY, WM. MCDONALD, FREDERICK J.
STANFORD UNIV., CALIF., SCHOOL OF EDUCATION.
EDRS PRICE MF-$0.75 HC-$5.44 136P.
PUB DATE OCT 64
DESCRIPTORS- *MATHEMATICS INSTRUCTION, *SCIENCE EDUCATION, *SCIENTIFIC METHODOLOGY, *TEACHING TECHNIQUES, CALIFORNIA, COGNITIVE DEVELOPMENT, JUNIOR HIGH SCHOOLS, SCIENCE INSTRUCTION, STANFORD, SUMMER PROGRAMS, TEAM TEACHING.

ED 003 503
THE DEVELOPMENT OF A MOBILE LABORATORY FOR THE IN-SERVICE EDUCATION OF TEACHERS OF SCIENCE AND MATHEMATICS.
RICHARDSON, JOHN S. DIEHL, T. HANDLEY
OHIO STATE UNIV. COLUMBUS, RESEARCH FOUNDATION.
EDRS PRICE MF-$0.75 HC-$7.64 191P.
PUB DATE MAY 61
DESCRIPTORS- *CURRICULUM DEVELOPMENT, *IN-SERVICE TEACHER EDUCATION, *MOBILE LABORATORIES, *SCIENCE INSTRUCTION, *TEACHER IMPROVEMENT, COLUMBUS, INSTRUCTIONAL AIDS, INSTRUCTIONAL MATERIALS, MATHEMATICS INSTRUCTION, OHIO.

ED 003 504
REPORT OF RESEARCH ON THE INTEGRATION OF SCIENCE TEACHING BY TELEVISION INTO THE ELEMENTARY SCHOOL PROGRAM.
GARRY, RALPH J. AND OTHERS
BOSTON UNIV., MASS., SCHOOL OF EDUCATION.
EDRS PRICE MF-$0.50 HC-$3.48 87P.
PUB DATE 31 OCT 60
DESCRIPTORS- *ACHIEVEMENT GAINS, *GRADE 5, *SCIENCE COURSES, *TELEVISED INSTRUCTION, ATTITUDES, BOSTON, EDUCATIONAL TELEVISION, INTERESTS, MASSACHUSETTS, NATURAL SCIENCES, PROGRAM EVALUATION, STUDENT ATTITUDES, STUDENT INTERESTS.

ED 003 515
DEVELOPMENT OF PROBLEM SOLVING ABILITY AND LEARNING OF RELEVANT-IRRELEVANT INFORMA-

TION THROUGH FILM AND TV VERSIONS OF A STRENGTH OF MATERIALS TESTING LABORATORY, FINAL REPORT.
HARRIS, CHARLES O. AND OTHERS
MICHIGAN ST. UNIV., EAST LANSING, COLL. OF EDUC.
EDRS PRICE MF-$0.25 HC-$1.56 39P.
PUB DATE 3 NOV 62
DESCRIPTORS- *COLLEGE INSTRUCTION, *ENGINEERING, *INSTRUCTIONAL FILMS, *INSTRUCTIONAL TELEVISION, *LABORATORY EXPERIMENTS, COGNITIVE ABILITY, COLLEGE STUDENTS, COMPARATIVE TESTING, EAST LANSING, LEARNING PROCESSES, MICHIGAN, PROBLEM SOLVING, TEACHING METHODS,

ED 003 536
AN INVESTIGATION OF THE IMPROVEMENT OF EDUCATIONAL MOTION PICTURES AND A DERIVATION OF PRINCIPLES RELATING TO THE EFFECTIVENESS OF THESE MEDIA.
VANDERMEER, A.W. AND OTHERS
PA. STATE UNIV., UNIVERSITY PARK.
EDRS PRICE MF-$0.50 HC-$3.80 95P.
PUB DATE APR 65
DESCRIPTORS- *COMPARATIVE ANALYSIS, *FILM PRODUCTION, *INSTRUCTIONAL FILMS, *MEDIA RESEARCH, *SCIENCE INSTRUCTION, ATOMS AND MOLECULES, PENNSYLVANIA, TEACHING TECHNIQUES, TEST CONSTRUCTION, UNIVERSITY PARK, WHY FOODS SPOIL.

ED 003 541
TESTING THE EFFECTIVENESS OF TWO-PURPOSE TELEVISION PROGRAMS IN CONTRIBUTING TO BOTH TEACHER AND PUPIL LEARNING (ELEMENTARY SCIENCE).
FRAZIER, ALEXANDER EVANS, LEWIS O.
OHIO STATE UNIVERSITY, COLUMBUS, RES. FOUNDATION.
EDRS PRICE MF-$0.50 HC-$3.40 85P.
DESCRIPTORS- *ELEMENTARY EDUCATION, *GENERAL SCIENCE, *PROGRAM EVALUATION, *TEACHER IMPROVEMENT, *TELEVISED INSTRUCTION, ACHIEVEMENT TESTS, COLUMBUS, EVALUATION, LEARNING, OHIO, SCIENCE EDUCATION, TELEVISION.

ED 003 542
EFFECTIVENESS OF INSTRUCTION BY TELEVISION IN TEACHING HIGH SCHOOL CHEMISTRY IN ALABAMA SCHOOLS.
BROWN, ROBERT D. TOFFEL, GEORGE M.
ALABAMA UNIVERSITY,
EDRS PRICE MF-$0.25 HC-$0.88 22P.
PUB DATE 60
DESCRIPTORS- *CHEMISTRY, *HIGH SCHOOL STUDENTS, *OPEN CIRCUIT TELEVISION, *SCIENCE INSTRUCTION, *TELEVISED INSTRUCTION, ACADEMIC PERFORMANCE, ALABAMA, INSTRUCTIONAL TELEVISION, PERFORMANCE FACTORS, SCIENCE EDUCATION, TELEVISION, CURRICULUM.

ED 003 549
THE EFFECTIVENESS OF FILMED SCIENCE COURSES IN PUBLIC SECONDARY SCHOOLS.
POPHAM, W. JAMES SADNAVITCH, JOSEPH M.
KANSAS STATE COLL. OF PITTSBURGH.
EDRS PRICE MF-$0.50 HC-$2.92 73P.
PUB DATE AUG 60

DESCRIPTORS- *CHEMISTRY, *HIGH SCHOOLS, *INSTRUCTIONAL FILMS, *PHYSICAL SCIENCES, *PHYSICS INSTRUCTION, ACADEMIC ACHIEVEMENT, ACHIEVEMENT TESTS, COURSE ORGANIZATION, INSTRUCTIONAL IMPROVEMENT, KANSAS, MEDIA RESEARCH, PITTSBURG, PROGRAM EVALUATION, SECONDARY EDUCATION.

ED 003 551
PREPARATION AND EVALUATION IN USE OF A SERIES OF BRIEF FILMS OF SELECTED DEMONSTRATIONS FROM THE INTRODUCTORY COLLEGE PHYSICS COURSE.
TENDAM, D.J. AND OTHERS
PURDUE RES. FOUNDATION, LAFAYETTE, IND.
EDRS PRICE MF-$0.25 HC-$2.00 50P.
PUB DATE 61
DESCRIPTORS- *ACHIEVEMENT, *COLLEGE STUDENTS, *PERFORMANCE, *PHYSICS, ACADEMIC PERFORMANCE, ACHIEVEMENT RATINGS, DEMONSTRATION PROGRAMS, INDIANA, INSTRUCTIONAL FILMS, LAFAYETTE, PHYSICS EXPERIMENTS, PHYSICS INSTRUCTION.

ED 003 560
THE EFFECT ON INSTRUCTION OF THE COMPLEMENTARY USE OF AUDIOVISUAL MEDIA WITH MODIFIED PATTERNS IN THE USE OF THE TEACHING STAFF.
FRITZ, JOHN O.
CHICAGO UNIV., GRAD. SCH. OF EDUC.
EDRS PRICE MF-$0.75 HC-$7.56 189P.
PUB DATE SEPT 63
DESCRIPTORS- *AUDIOVISUAL INSTRUCTION, *INSTRUCTIONAL INNOVATION, *MEDIA RESEARCH, *PHYSICS INSTRUCTION, CHICAGO, COMPARATIVE ANALYSIS, HIGH SCHOOLS, ILLINOIS, LEARNING PROCESSES, PHYSICAL SCIENCE STUDY COMMITTEE, TEACHING TECHNIQUES.

ED 003 565
THE RETENTION BY ELEMENTARY SCHOOL CHILDREN OF NATURAL SCIENCE MATERIAL TAUGHT BY TELEVISION.
AMIRIAN, GERARD T.
BOSTON UNIV., MASS.
EDRS PRICE MF-$0.25 HC-$1.48 37P.
PUB DATE 1 NOV 61
DESCRIPTORS- *ATTITUDES, *GRADE 5, *SCIENCES, *TEACHING PROGRAMS, *TELEVISION, BOSTON, MASSACHUSETTS, NATURAL SCIENCES, RETENTION.

ED 003 568
A COMPARATIVE STUDY IN THE TEACHING OF HIGH SCHOOL CHEMISTRY AND PHYSICS
BRYAN, EDWARD E.
OKLA. STATE DEPT. OF EDUC., OKLAHOMA CITY.
EDRS PRICE MF-$0.25 HC-$2.20 55P.
PUB DATE SEP 61
DESCRIPTORS- *CHEMISTRY, *COMPARATIVE ANALYSIS, *HIGH SCHOOL STUDENTS, *PHYSICS INSTRUCTION, *TELEVISED INSTRUCTION, OKLAHOMA, OKLAHOMA CITY, PROGRAM EVALUATION, TEACHING TECHNIQUES, TELEVISION RESEARCH.

ED 003 584
AN INVESTIGATION OF CONCEPT DEVELOPMENT IN ELEMENTARY SCHOOL SCIENCE TEACHING BY TELEVISION.
GARRY, RALPH AND OTHERS
BOSTON UNIV., MASS.
EDRS PRICE MF-$0.25 HC-$1.68 43P.
PUB DATE 1 DEC 63
DESCRIPTORS- *CONCEPT FORMATION, *PROBLEM SOLVING, *SCIENCE INSTRUCTION, *TELEVISED INSTRUCTION, *TELEVISION RESEARCH, BOSTON, GRADE 5, MASSACHUSETTS, NATURAL SCIENCES, PROGRAM EVALUATION, TEACHING TECHNIQUES, TELEVISION TEACHERS.

ED 003 595
THE EFFECT OF SELECTED SPATIAL DESIGN FACTORS IN EDUCATIONAL DISPLAYS ON LEARNING AND RETENTION.
SAUL, EZRA V. ROCKETT, AGNES M.
TUFTS UNIV., BEDFORD, MASS.
EDRS PRICE MF-$0.25 HC-$1.00 25P.
PUB DATE 1 JUN 64
DESCRIPTORS- *AUDIOVISUAL AIDS, *BIOLOGY INSTRUCTION, *CHARTS, *GRADE 10, *GRAPHIC ARTS, ABILITY IDENTIFICATION, INSTRUCTIONAL AIDS, LEARNING, MASSACHUSETTS, BEDFORD.

ED 003 598
THE USE OF MOTIVATIONAL FILMS TO FAVORABLY CHANGE THE ATTITUDES OF HIGH SCHOOL STUDENTS TOWARD SCIENCE AND SCIENTISTS.
WICKLINE, LEE E.
W. VA. STATE DEPT. OF EDUC., CHARLESTON.
EDRS PRICE MF-$0.25 HC-$1.48 37P.
PUB DATE JUL 62
DESCRIPTORS- *FILMS, *HIGH SCHOOL STUDENTS, *SCIENTIFIC ATTITUDES, *STUDENT ATTITUDES, *TESTING, ALLEN ATTITUDE SCALE, ATTITUDES, CHARLESTON, FACTS ABOUT SCIENCE TEST, HORIZONS OF SCIENTIFIC FILMS, SCIENTIFIC CONCEPTS, WEST VIRGINIA.

ED 003 629
THE DEVELOPMENT AND EVALUATION OF A PROGRAMING TECHNIQUE FOR RELATING FRAME DIFFICULTY TO THE ABILITY OF THE LEARNER. FINAL REPORT, PART II, APPENDICES
MOORE, J. WM. SMITH, WENDELL T.
BUCKNELL UNIV., LEWISBURG, PA.
EDRS PRICE MF-$0.50 HC$3.20 80P.
PUB DATE 65
DESCRIPTORS- *BIOLOGY, *CONCEPT TEACHING, *HEALTH EDUCATION, *PROGRAMED MATERIALS, *SET THEORY, LEWISBURG, PENNSYLVANIA, PROGRAM EVALUATION, PROGRAMED TEXTS.

ED 003 652
AN EVALUATION OF TELEVISION PROCEDURES DESIGNED TO STIMULATE EXTRACURRICULAR SCIENCE ACTIVITIES. STUDIES IN TELEVISED INSTRUCTION, REPORT 6.
GROPPER, GEO. L. AND OTHERS
METROPOLITAN PITTSBURGH EDUC. TV STATION PA.
EDRS PRICE MF-$0.50 HC$2.60 65P.
PUB DATE MAY 61
DESCRIPTORS- *COCURRICULAR ACTIVITIES, *INSTRUCTIONAL TELEVISION, *PROGRAMED INSTRUCTION, *SCIENCE ACTIVITIES, *TELEVISED INSTRUCTION, DEMONSTRATIONS (EDUCATIONAL), EDUCATIONAL TELEVISION, EXPERIMENTS, JUNIOR HIGH SCHOOL, PENNSYLVANIA, PITTSBURGH, SCIENCE EXPERIMENTS, STIMULUS BEHAVIOR, STIMULUS DEVICES, STUDENT EXPERIENCES, STUDENT PARTICIPATION, STUDENT REACTION.

ED 003 655
SELF-INSTRUCTIONAL SUPPLEMENTS FOR A TELEVISED PHYSICS COURSE, STUDY PLAN AND EXPERIMENTAL DESIGN.
KLAUS, DAVID J. LUMSDAINE, ARTHUR A.
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$0.25 HC-$1.76 44P.
PUB DATE DEC 59
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *GROUP INSTRUCTION, *PHYSICS INSTRUCTION, *PROGRAMING, *TELEVISED INSTRUCTION, COMPARATIVE ANALYSIS, HIGH SCHOOLS, PENNSYLVANIA, PITTSBURGH, RESEARCH METHODOLOGY, SUPPLEMENTARY EDUCATION, TEACHING TECHNIQUES.

ED 003 656
AN EXPERIMENTAL FIELD TEST OF THE VALUE OF SELF-TUTORING MATERIALS IN HIGH SCHOOL PHYSICS. INTERIM REPORT.
KLAUS, DAVID J. LUMSDAINE, ARTHUR A.
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$0.25 HC-$0.88 22P.
PUB DATE APR 60
DESCRIPTORS- *ACHIEVEMENT GAINS, *AUTOINSTRUCTIONAL AIDS, *MATERIAL DEVELOPMENT, *PHYSICS INSTRUCTION, *TELEVISED INSTRUCTION, ACADEMIC ACHIEVEMENT, COMPARATIVE ANALYSIS, HIGH SCHOOL STUDENTS, PENNSYLVANIA, PITTSBURGH, PROGRAMING, SUPPLEMENTARY EDUCATION, TEACHING TECHNIQUES.

ED 003 657
INTRODUCTION AND STATIC ELECTRICITY, VOLUME I.
KLAUS, DAVID J. AND OTHERS
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.

EDRS PRICE MF-$2.50 HC-$23.08 577P.
PUB DATE 60
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *MATERIAL DEVELOPMENT, *PHYSICS INSTRUCTION, *PROGRAMED MATERIALS, *TEXTBOOK PREPARATION, EXPERIMENTAL PROGRAMS, PENNSYLVANIA, PITTSBURGH, PROGRAMED INSTRUCTION.

ED 003 658
ATOMIC PHYSICS, AN AUTOINSTRUCTIONAL PROGRAM, VOLUME I. SUPPLEMENT.
KLAUS, DAVID J. DETERLINE, WM. A.
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$1.00 HC-$8.16 204P.
PUB DATE 61
DESCRIPTORS- *ATOMIC THEORY, *AUTOINSTRUCTIONAL AIDS, *MATERIAL DEVELOPMENT, *NUCLEAR PHYSICS, *PHYSICS INSTRUCTION, EXPERIMENTAL PROGRAMS, PENNSYLVANIA, PITTSBURGH, TEXTBOOK PREPARATION.

ED 003 659
REFLECTION AND REFRACTION, VOLUME 2
KLAUS, DAVID J. AND OTHERS
AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$3.00 HC-$28.56 714P.
PUB DATE 60
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *MATERIAL DEVELOPMENT, *PHYSICS, INSTRUCTION, *PROGRAMED MATERIALS, *TEXTBOOK PREPARATION, EXPERIMENTAL PROGRAMS, PENNSYLVANIA, PITTSBURGH, PROGRAMED INSTRUCTION.

ED 003 700
EFFECTS OF INQUIRY TRAINING IN PHYSICAL SCIENCE ON CREATIVITY AND COGNITIVE STYLES OF ELEMENTARY SCHOOL CHILDREN.
SCOTT, NORVAL C., JR. SIGEL, I.E.
MERRILL PALMER INST.
DETROIT, MICHIGAN
EDRS PRICE MF-$0.75 HC-$5.44 136P.
PUB DATE 65
DESCRIPTORS- *COGNITIVE DEVELOPMENT, *CONCEPT TEACHING, *CREATIVE THINKING, *DISCOVERY PROCESSES, *SCIENCE INSTRUCTION, ACADEMIC ACHIEVEMENT, ACHIEVEMENT GAINS, CURRICULUM ENRICHMENT, DETROIT, ELEMENTARY SCHOOL STUDENTS, LEARNING PROCESSES, MICHIGAN, PHYSICAL SCIENCES, SEX DIFFERENCES, TEACHING METHODS, THOUGHT PROCESSES.

ED 003 704
RECOGNITION AND INTERPRETATION OF PICTORIAL STIMULI FOUND WITHIN EDUCATIONAL STILL PICTURES.
BERGESON, CLARENCE O.
PA. STATE UNIV., UNIVERSITY PARK.
EDRS PRICE MF-$0.50 HC-$3.40 85P.
PUB JUN 65
DESCRIPTORS- *ILLUSTRATIONS, *PHOTOGRAPHS, *SCIENTIFIC CONCEPTS, *VISUAL DISCRIMINATION, *VISUAL STIMULI, AUDIOVISUAL AIDS, ELEMENTARY SCHOOL STUDENTS, GRADE 11, GRADE 8, PENNSYLVANIA, UNIVERSITY PARK, VISUAL PERCEPTION.

ED 003 788
CUE (CULTURE, UNDERSTANDING, ENRICHMENT)—SCIENCE.
BROWN, ROBT. M. AND OTHERS
N.Y. STATE EDUC. DEPT., ALBANY.
EDRS PRICE MF-$1.00 HC-$8.28 20P.
PUB DATE 64
DESCRIPTORS- *AUDIOVISUAL AIDS, *ENRICHMENT PROGRAMS, *GUIDES, *SCIENCE INSTRUCTION, *TEACHING GUIDES, ALBANY, CULTURAL AWARENESS, CULTURAL ENRICHMENT, CURRICULUM ENRICHMENT, EDUCATIONAL PROGRAMS, GRADE 9, INSTRUCTIONAL AIDS, INSTRUCTIONAL IMPROVEMENT, NEW YORK PROJECT CUE, SCIENCE CURRICULUM, SCIENCE PROGRAMS, SECONDARY EDUCATION.

ED 003 826
A PROJECT TO STUDY THE NATURE OF EFFECTIVE PHYSICS TEACHING.
SNIDER, RAY M.
CORNELL UNIV., ITHACA, N.Y.
EDRS PRICE MF-$1.50 HC-$13.64 341P
PUB DATE 65
DESCRIPTORS- *ACADEMIC ACHIEVEMENT, *CLASSROOM RESEARCH, *EFFECTIVE TEACHING, *PHYSICS INSTRUCTION, *STUDENT TEACHER RELATIONSHIP, FLANDERS METHOD, HIGH SCHOOLS, ITHACA, NEW YORK, PHYSICS, PHYSICS CURRICULUM, VERBAL COMMUNICATION.

ED 003 849
DEVELOPMENT OF INSTRUCTIONAL MATERIALS FOR A PROCESS-ORIENTED CURRICULUM IN SCIENCE FOR GRADES K-6.
BUTTS, DAVID P.
TEXAS UNIV., AUSTIN, SCIENCE EDUCATION CENTER.
EDRS PRICE MF-$0.25 HC$0.72 18P.
PUB DATE 64
DESCRIPTORS- *ELEMENTARY SCHOOL TEACHERS, *ELEMENTARY SCIENCE, *INSERVICE TEACHER EDUCATION, *MATERIAL DEVELOPMENT, *SCIENCE INSTRUCTION, AUSTIN, CONSULTANTS, CURRICULUM DEVELOPMENT, INSTRUCTIONAL MATERIALS, TEXAS.

ED 003 900
SPANISH-BIOLOGY, FINAL REPORT.
DORAN, THOMAS A.
FOLSOM UNIFIED SCHOOL DISTRICT, CALIF.
EDRS PRICE MF-$0.25 HC-$1.28 32P.
PUB DATE 1 JAN 65
DESCRIPTORS- *ACHIEVEMENT GAINS, *BIOLOGY, MATERIAL DEVELOPMENT, *SPANISH, *TEACHING TECHNIQUES, CALIFORNIA, CLASSROOM INTEGRATION, COURSE ORGANIZATION, FOLSOM DISTRICT.

SCIENCE EDUCATION REPORTS
IN
PACESETTERS IN INNOVATION, FISCAL YEAR 1966

ES 000 032
SARASOTA COUNTY EDUCATIONAL ENRICHMENT CENTERS, FLA., SARASOTA, COUNTY BOARD OF PUBLIC INSTRUCTION.
EDRS PRICE MF-$0.25 HC-$2.08 52P.

DESCRIPTORS- *DROPOUTS, *GRADES 1-6, *GRADES 7-12, *LOW INCOME GROUPS, *MOBILE LABORATORIES, *NATURAL RESOURCES, *SCIENCES, ADULT EDUCATION HOME ECONOMICS, LEARNING DIFFICULTIES, OCEANOLOGY, PHYSICAL EDUCATION, SCIENCE LABORATORIES STUDENT TEACHERS,

ES 000 043
PROGRAM OF OUTDOOR EDUCATION, IDAHO, COEUR D'ALENE, SCHOOL DISTRICT 271.
EDRS PRICE MF-$9.25 HC-$0.56 14P.

DESCRIPTORS- *COUNSELING, *CULTURAL EDUCATION, *GRADE 7, *GRADES 7-12, *HEALTH PROGRAM, *OUTDOOR PROGRAMS, *RECREATIONAL ACTIVITIES, SUMMER PROGRAMS, DISADVANTAGED YOUTH, HANDICAPPED CHILDREN, NATURAL RESOURCES, RURAL AREAS, SCIENCES, SOCIAL EXPERIENCES,

ES 000 044
SANDUSKY AREA SUPPLEMENTARY EDUCATION CENTER, OHIO, SANDUSKY, CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.88 47P.

DESCRIPTORS- *CULTURAL CENTERS, *GRADES 7-12, *INSTRUCTIONAL MATERIALS CENTERS, *LIBRARY FACILITIES, *PLANETARIUMS, *SPACE SCIENCES, ART, ASTRONOMY, AUDIOVISUAL AIDS, DRAMATICS, INDEPENDENT STUDY, MUSIC,

ES 000 047
TRAINING CENTER IN EXEMPLARY INSTRUCTIONAL SYSTEMS, TEX., HOUSTON, SPRING BRANCH IND. SCH. DIST.
EDRS PRICE MF-$0.25 HC-$1.28 32P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *INSERVICE TEACHER EDUCATION, *PHOTOGRAPHY, *PROGRAMING, INSTRUCTIONAL TECHNOLOGY, SKILL DEVELOPMENT, WORKSHOPS,

ES 000 053
REGIONAL OUTDOOR EDUCATION PROGRAM, OREG., PORTLAND, MULTNOMAH COUNTY INT. ED. DISTRICT
EDRS PRICE MF-$0.25 HC-$1.32 33P.

DESCRIPTORS- *CONSERVATION, *GRADE 6, *GRADES 1-6, *NATURAL RESOURCES, *OUTDOOR PROGRAMS, CAMPING,

ES 000 054
PROJECT PROMETHEUS, OREG., MEDFORD, JACKSON COUNTY INT. ED. DIST.
EDRS PRICE MF-$0.25 HC-$1.52 38P.

DESCRIPTORS- *ABLE STUDENTS, *BIOLOGICAL SCIENCES, *CULTURAL ENRICHMENT, *GRADES 7-12, *HUMANITIES, *SOCIAL SCIENCES, *SUMMER SCHOOLS,

ES 000 056
PILOT SUPPLEMENTARY ELEMENTARY SCIENCE INTERPRETIVE PROGRAM, N.J., MIDDLETOWN, BD. OF ED. OF TOWNSHIP SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.48 37P.

DESCRIPTORS- *COMMUNITY INVOLVEMENT, *GRADE 4, *GRADES 1-6, *NATURAL SCIENCES, *OCEANOLOGY, *OUTDOOR PROGRAMS, GEOLOGY, INSERVICE TEACHER EDUCATION,

ES 000 057
SUPPLEMENTARY EDUCATIONAL CENTER, OHIO, CLEVELAND, BOARD OF EDUCATION
EDRS PRICE MF-$0.50 HC-$2.88 72P.

DESCRIPTORS- *FINE ARTS, *GRADES 1-6, *GRADES 7-12, *LANGUAGE ARTS, *MATHEMATICS, *SCIENCES, *SOCIAL SCIENCES, CITIZENSHIP, EDUCATIONAL TELEVISION, GOVERNMENT, READING, REMEDIAL INSTRUCTION, URBAN AREAS,

ES 000 060
UPPER SUSQUEHANNA REGIONAL SUPPLEMENTARY EDUCATIONAL SERVICE, N.Y., BINGHAMTON, BROOME COUNTY BD/COOP EDUCATIONAL SERVICES
EDRS PRICE MF-$0.25 HC-$1.96 49P.

DESCRIPTORS- *EDUCATIONAL TELEVISION, *EXHIBITS, *FINE ARTS, *HISTORY, *PLANETARIUMS, *SCIENCES, *WORLD AFFAIRS, INSERVICE TEACHER EDUCATION, TEACHER SEMINARS, VOCATIONAL EDUCATION, WORKSHOPS,

ES 000 063
HIGH ROCK NATURE CONSERVATION CENTER, N.Y., BROOKLYN, BD. OF EDUC., CITY OF NEW YORK
EDRS PRICE MF-$0.25 HC-$1.00 25P.

DESCRIPTORS- *CONSERVATION, ECOLOGY, *GRADES 1-6, *NATURAL RESOURCES, *OUTDOOR PROGRAMS, *YEAR ROUND PROGRAMS, NATURAL SCIENCES,

ES 000 070
SUMMER INSTITUTE IN FIELD ECOLOGY AND FIELD GEOLOGY FOR HIGH SCHOOL STUDENTS. MONT., DEER LODGE, POWELL COUNTY HIGH SCHOOL
EDRS PRICE MF-$0.25 HC-$1.24 31P.

DESCRIPTORS- *CHEMISTRY, *GRADES 7-12, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *SUMMER PROGRAMS, BIOLOGY, CHEMISTRY, CURRICULUM ENRICHMENT, GEOLOGY, HIGH SCHOOL STUDENTS, MOTIVATION TECHNIQUES, PHYSICAL SCIENCES, TEAM TEACHING.

ES 000 090
PLANNING FOR A PROGRAM OF EXEMPLARY EDUCATIONAL SERVICES FOR THE AMHERST SCHOOL DISTRICT. N.Y., BUFFALO, AMHERST CENTRAL H.S. DISTRICT 1
EDRS PRICE MF-$0.25 HC-$1.16 29P.

DESCRIPTORS- *FAMILY PROGRAMS, *GRADES 1-6, *GRADES 7-12, *READING PROGRAMS, *SCIENCE LABORATORIES, SPECIALISTS.

ES 000 116
3-D SCHOOL. N.J., BORDENTOWN, TOWNSHIP BD. OF EDUCATION
EDRS PRICE MF-$0.25 HC-$1.04 26P.

DESCRIPTORS- *GRADE 7, *GRADE 8, *GRADES, 7-12, *NATURAL SCIENCES, *OUTDOOR PROGRAMS BIOLOGICAL SCIENCES, CAMPING, CULTURAL ENRICHMENT, ECOLOGY.

ES 000 118
CENTER OF SCIENCE AND INDUSTRY. OHIO, CINCINNATI, BD. OF EDUC., CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.04 26P.

DESCRIPTORS- *ENRICHMENT PROGRAMS, *GRADES 1-6, *GRADES 7-12, *PHYSICAL SCIENCES, *SCIENCE CENTERS, ADVANCED PROGRAMS, COMMUNITY INVOLVEMENT, HOBBIES, INSERVICE TEACHER EDUCATION, MOBILE LABORATORIES, RECREATIONAL ACTIVITIES.

ES 000 126
PLANNING GRANT APPLICATION FOR SUPPLEMENTARY EDUCATIONAL CENTER. CALIF., SAN DIEGO, DEPT. OF ED. SAN DIEGO COUNTY.
EDRS PRICE MF-$0.25 HC-$1.28 32P.

DESCRIPTORS- *COMMUNITY RESOURCES, *ENGLISH AS A SECOND LANGUAGE, *GRADES 1-6, *GRADES 7-12, *SAFETY PROGRAMS, *SCIENCE PROGRAMS, MEXICAN AMERICAN, SPECIALISTS.

ES 000 132
ARTS AND SCIENCE CENTER. WASH., SEATTLE, SCHOOL DISTRICT I
EDRS PRICE MF-$0.50 HC-$3.92 98P.

DESCRIPTORS- *ARTS CENTERS, *GRADES 1-6, *GRADES 7-12, *HUMANITIES, *SCIENCES, COMMUNITY RESOURCES, CULTURAL EDUCATION, INSERVICE TEACHER EDUCATION, TALENT UTILIZATION.

ES 000 136
HARRIS COUNTY CENTER FOR INSTRUCTIONAL IMPROVEMENT. TEX., HOUSTON, HARRIS COUNTY DEPT. OF ED.
EDRS PRICE MF-$0.25 HC-$1.16 29P.

DESCRIPTORS- *COMMUNITY RESOURCES, *DEMONSTRATION CENTERS, *EXCEPTIONAL CHILDREN, *GRADES 1-6, *GRADES 7-12, *INSERVICE TEACHER EDUCATION, *INSTRUCTIONAL MATERIALS CENTERS, *OUTDOOR PROGRAMS, *TESTING PROGRAMS, INSTRUCTIONAL AIDS, PROGRAMED INSTRUCTION, TEACHER ORIENTATION, TEAM TEACHING, TELEVISED INSTRUCTION.

ES 000 142
FLORENCE AREA EDUCATIONAL SERVICES CENTER. S.C., FLORENCE, SCHOOL DISTRICT 1
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *CULTURAL PROGRAMS, *INSERVICE TEACHER EDUCATION, *PSYCHOLOGICAL SERVICES, *SCIENCE PROGRAMS, ADULT EDUCATION, ADVANCED PROGRAMS, COUNSELING, DISADVANTAGED YOUTH, EDUCATIONAL TELEVISION, GIFTED, MATHEMATICS, PRESCHOOL EDUCATION, REMEDIAL INSTRUCTION, RETARDED CHILDREN.

ES 000 161
NASSAU COUNTY PLANNING PROPOSAL. N.Y., JERICHO, U.F.S. DISTRICT 15
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTORS- *COMPUTER ORIENTED PROGRAMS, *COUNSELING, *CULTURAL ENRICHMENT, *CURRICULUM DEVELOPMENT, *GRADES 1-6, *GRADES 7-12, INSERVICE TEACHER EDUCATION, *LIBRARY SERVICES, *SCIENCE PROGRAMS, TEACHING METHODS.

ES 000 163
TEXAS GULF COAST SCIENCE EDUCATIONAL RESOURCES CENTER. TEX., HOUSTON, INDEPENDENT SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$0.80 20P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *SCIENCE CENTERS, COMPUTER ORIENTED PROGRAMS, EXHIBITS, FIELD TRIPS, INSERVICE TEACHER EDUCATION, LIBRARY SERVICES, MUSEUMS, RADIO, SCIENCE LABORATORIES, SPACE SCIENCES, SPECIALISTS, TELEVISION.

ES 000 168
APPROACH TO INTER-SUBURBAN PLANNING FOR HUMANIZING EMERGING CURRICULUM CONCEPTS AND EDUCATIONAL SERVICES. VA., ARLINGTON, ARLINGTON COUNTY PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *FINE ARTS, *GRADES 1-6, *GRADES 7-12, * HANDICAPPED CHILDREN, *KINDERGARTEN, *LANGUAGE LABORATORIES, *SCIENCE CENTERS, *YEAR ROUND PROGRAMS, INSERVICE TEACHER EDUCATION, PLANETARIUMS, SCIENCE LABORATORIES.

ES 000 169
PLANNING GRANT TO SET UP A PLANNING COMMITTEE TO EXPLORE THE POSSIBILITIES OF A CURRICULUM/CULTURAL RESEARCH CENTER. MD., CUMBERLAND, ALLEGHENY, COUNTY BOARD OF EDUCATION.
EDRS PRICE MF-$0.25 HC-$0.68 17P.

DESCRIPTORS- *AUDIOVISUAL CENTERS, CULTURAL CENTERS, *CURRICULUM, *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *LIBRARIES, *SCIENCE CENTERS, INSERVICE TEACHER EDUCATION.

ES 000 172
REGIONAL ACADEMIC MARINE PROGRAM. MAINE, KITTERY, JOINT COMM. R.W. TRAIP ACADEMY
EDRS PRICE MF-$0.25 HC-$0.72 19P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *OCEANOLOGY, *SCIENCE CENTERS, ADVANCED PROGRAMS, MOBILE LABORATORIES, TEACHER WORKSHOPS.

ES 000 175
SUPPLEMENTARY EDUCATIONAL FACILITIES. MASS., MEDFORD, PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$0.96 24P.

DESCRIPTORS- *ARTS CENTERS, *GRADES 1-6, *LABORATORIES, *SCIENCE CENTERS, AUDIOVISUAL MATERIALS, CULTURAL ENRICHMENT, PARENT PARTICIPATION.

ES 000 176
REQUEST FOR A PLANNING GRANT TO DETERMINE THE EDUCATIONAL AND CULTURAL NEEDS OF THE CHILDREN AND ADULTS OF THE BALTIMORE COUNTY REGION AND TO DESIGN A PROGRAM AND APPROPRIATE FACILITIES TO MEET THESE NEEDS. MD., TOWSON, BD. OF ED., BALTIMORE COUNTY
EDRS PRICE MF-$0.50 HC-$3.00 75P.

DESCRIPTORS- *CONCERTS, *GRADES 1-6, *GRADES 7-12, *GUIDANCE COUNSELORS, *PROBLEM CHILDREN, *SCIENCE PROGRAMS, *THEATER ARTS, BEHAVIOR PROBLEMS, EXPERIMENTS, INSERVICE TEACHER EDUCATION, LEARNING PROBLEMS,

ES 000 180
INTERDISCIPLINARY OUTDOOR EDUCATION PROGRAM. WASH., SEATTLE, SHORELINE SCHOOL DISTRICT 412
EDRS PRICE MF-$0.25 HC-$0.60 15P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *NATURAL RESOURCES, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, CURRICULUM PLANNING.

ES 000 189
MID-HUDSON REGIONAL SUPPLEMENTARY EDUCATIONAL CENTER'S — (PINE) PROJECTS IN IMAGINATIVE NATURE EDUCATION. N.Y., NEW PALTZ, ULSTER COUNTY BD. COOP. ED. SVCS.
EDRS PRICE MF-$0.25 HC-$1.76 44P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *NATURAL RESOURCES, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *PRESCHOOL CHILDREN, CONSERVATION.

ES 000 190
MID-HUDSON REGIONAL SUPPLEMENTARY EDUCATIONAL CENTER'S—(PEC) PROJECT EXEMPLARY CONSORTIA OF NATURAL SCIENCE, HISTORICAL MUSEUMS, AND SCHOOLS. N.Y., NEW PALTZ, ULSTER COUNTY BD. COOP. ED. SVCS.
EDRS PRICE MF-$0.25 HC-$0.96 24P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *MUSEUMS, *SCIENCES, *SOCIAL STUDIES, HISTORY, INSERVICE TEACHER EDUCATION, TALENTED STUDENTS.

ES 000 192
PLANNING PROJECT FOR A PILOT STUDY IN CONSERVATION EDUCATION. MONT., GREAT FALLS, SCHOOL DISTRICT 1.
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS- *CONSERVATION, *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, CAMPING, CONSULTANTS, EDUCATIONAL TELEVISION, INSERVICE TEACHER EDUCATION, MOBILE UNITS, NATURAL SCIENCES, RURAL AREAS.

ES 000 193
OUTDOOR EDUCATION—CONSERVATION AND RURAL LIFE REGIONAL CENTER. MICH, CHARLOTTE, EATON COUNTY INT BD. OF EDUC.
EDRS PRICE MF-$0.25 HC-$1.00 25P.

DESCRIPTORS- *CONSERVATION, *GRADES 1-6, *GRADES 7-12, KINDERGARTEN, *OUTDOOR PROGRAMS, HANDICAPPED CHILDREN, INSERVICE TEACHER EDUCATION, NATURAL RESOURCES, NATURAL SCIENCES, PRESERVICE EDUCATION.

ES 000 194
ELEMENTARY SCIENCE CENTER. MASS., NEEDHAM, PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$0.60 15P.

DESCRIPTORS- *AFTER SCHOOL PROGRAMS, *ELEMENTARY SCIENCE, *GRADES 1-6, *INSERVICE TEACHER EDUCATION, *KINDERGARTEN, *SCIENCE CENTERS, *TALENTED STUDENTS, DEMONSTRATION PROGRAMS, ELECTRONIC EQUIPMENT, PARENT PARTICIPATION, RESOURCE CENTERS, WORKSHOPS.

ES 000 199
PLANNING PROJECT UNDER TITLE III, P.L. 89-10. CALIF., SAN FRANCISCO, UNIFIED SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.64 41P.

DESCRIPTORS- *CULTURAL ENRICHMENT, *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *SCIENCE PROGRAMS, *SOCIAL STUDIES, COMMUNITY RESOURCES, INSERVICE TEACHER EDUCATION.

ES 000 203
UTILIZATION OF COMPUTER ASSISTED INSTRUCTION TO IMPROVE STUDENT ACHIEVEMENT AND FACULTY INSTRUCTION IN SECONDARY SCHOOL MATHEMATICS AND SCIENCE. PA., ALTOONA, CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.24 31P.

DESCRIPTORS- *COMPUTER ORIENTED PROGRAMS, *GRADES 7-12, *HIGH SCHOOLS, *MATHEMATICS, *SCIENCES, INSERVICE TEACHER EDUCATION, PROGRAMED INSTRUCTION.

ES 000 211
SCIENCE CENTER. PA., ABINGTON, TOWNSHIP SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$0.68 17P.

DESCRIPTORS- *CONSERVATION, *NATURAL SCIENCES, *SCIENCE CENTERS.

ES 000 223
APPLICATION FOR A PLANNING GRANT. TENN., OAK RIDGE, BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$1.12 28P.

DESCRIPTORS- *SCIENCE CENTERS, CURRICULUM PLANNING, ECOLOGY, EDUCATIONALLY DISADVANTAGED, INSERVICE TEACHER EDUCATION, INSTRUCTIONAL MATERIALS CENTERS, LABORATORIES.

ES 000 227
SUPPLEMENTARY EDUCATIONAL CENTER. N.C., SALISBURY, CITY BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS- *AMERICAN HISTORY, *FINE ARTS, *GRADES 1-6, *GRADES 7-12, *NATURAL SCIENCES, *PLANETARIUMS, ASTRONOMY, COLLEGES, EXHIBITS, INDEPENDENT STUDY, SPECIALISTS, WORKSHOPS, ZOOS.

ES 000 228
CLASSROOM OF TODAY'S WORLD. N.J., OLD BRIDGE, MADISON TOWNSHIP PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTORS- *FINE ARTS, *GRADES 1-6, *GRADES 7-12, *MOBILE LABORATORIES, *SCIENCES, *SOCIAL STUDIES, COMMUNITY STUDIES, CONTROL GROUPS, FIELD TRIPS.

ES 000 229
LINCOLN TITLE III PROJECT DESIGNED TO DEVELOP AND ENRICH ELEMENTARY CURRICULUM IN THE AREA OF AEROSPACE. NEBR., LINCOLN, CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.24 31P.

DESCRIPTORS- *CORE CURRICULUM, *CURRICULUM PLANNING, *GRADES 1-6, *INSTRUCTIONAL MATERIALS CENTERS, *SPACE SCIENCES, SCHOOL LIBRARIES, SUMMER WORKSHOPS.

ES 000 239
PROPOSAL FOR THE USE OF A MOBILE LABORATORY TO ENRICH AND EXPAND THE SCIENCE PROGRAM IN THE SCHOOLS OF DISTRICT 241. FREEBORN COUNTY, MINN., ALBERT LEA, INDEP. SCHOOL DISTRICT 241
EDRS PRICE MF-$0.25 HC-$1.80 45P.

DESCRIPTORS- *GEOLOGY, *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *MOBILE LABORATORIES, *YEAR ROUND PROGRAMS, INSERVICE TEACHER EDUCATION, TALENTED STUDENTS, TEAM TEACHING.

ES 000 246
RESOURCE-USE OUTDOOR EDUCATION CENTER. FLA., PERRY, TAYLOR COUNTY BD. OF PUBLIC INSTRUCTION
EDRS PRICE MF-$0.25 HC-$0.92 23P.

DESCRIPTORS- *CONSERVATION, *NATURAL RESOURCES, *RESOURCE CENTERS, *YEAR ROUND PROGRAMS, CAMPING, INSERVICE TEACHER EDUCATION, NATURAL SCIENCES.

ES 000 279
OUTDOOR EDUCATIONAL CENTER. N. MEX., ALBUQUERQUE, PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$0.64 16P.

DESCRIPTORS- *CAMPING, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, ART, BOTANY, CONSERVATION, HEALTH PROGRAMS, MATHEMATICS, PARENT PARTICIPATION, SAFETY, ZOOLOGY.

ES 000 282
SAN ANGELO AREA ASTRO-SCIENCE CENTER. TEX., SAN ANGELO, INDEPENDENT SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$0.80 20P.

DESCRIPTORS- *ASTRONOMY, *GRADES 7-12, *SPACE SCIENCES, *ACCELERATED PROGRAMS, AUDIOVISUAL AIDS, COLLEGES, INDIVIDUAL INSTRUCTION, INSERVICE TEACHER EDUCATION, MUSEUMS, PLANETARIUMS, SCIENCE CENTERS, SCIENCE LABORATORIES, SPECIALISTS, STUDENT RESEARCH.

ES 000 284
SCIENCE LABORATORY-PLANETARIUM. WYO., CASPER, NATRONA COUNTY HIGH SCH. DISTRICT
EDRS PRICE MF-$0.25 HC-$0.92 23P.

DESCRIPTORS- *ASTRONOMY, *GRADES 1-6, *GRADES 7-12, *PLANETARIUMS, *SCIENCE LABORATORIES, *YEAR ROUND PROGRAMS, COMMUNITY INVOLVEMENT, DEMONSTRATION CENTERS, INSERVICE TEACHER EDUCATION, LECTURE.

ES 000 291
CENTER FOR ACADEMIC EXCELLENCE. MINN., MINNEAPOLIS, PUB. SCH. SPECIAL SCH. DIST. 1
EDRS PRICE MF-$0.25 HC-$0.56 14P.

DESCRIPTORS- *GIFTED, *GRADES 7-12, *LANGUAGES, *MATHEMATICS, *SCIENCES, ABILITY IDENTIFICATION, CLASS SIZE, CURRICULUM DEVELOPMENT, FLEXIBLE SCHEDULING, INDIVIDUAL INSTRUCTION, NONGRADED CLASSES, PROGRAMED INSTRUCTION, TEACHER SELECTION, TEAM TEACHING.

ES 000 303
PROJECT LIGHTHOUSE. MASS., SCITUATE, SCHOOL DEPARTMENT
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS- *CULTURAL BACKGROUND, *GRADES 1-6, *GRADES 7-12, *HANDICAPPED, *HISTORY, *OCEANOLOGY, *OUTDOOR PROGRAMS, AUDIOVISUAL AIDS, CURRICULUM DEVELOPMENT, DRAMATICS, INSERVICE TEACHER EDUCATION, NATURAL RESOURCES, PILOT PROJECTS, SCIENCE LABORATORIES.

ES 000 307
NORTHWEST EDUCATIONAL COMPLEMENTAL CENTER. MO., HAZELWOOD, PATTONVILLE R-3 SCH. DIST.
EDRS PRICE MF-$0.25 HC$1.32 33P.

DESCRIPTORS- *CULTURAL PROGRAMS, *GUIDANCE SERVICES, *PLANETARIUMS, *READING CLINICS, *RECREATIONAL PROGRAMS, *RESOURCE CENTERS, *SPACE SCIENCES, REMEDIAL READING CLINICS.

ES 000 317
NEWTOWN OUTDOOR EDUCATION PROJECT. N.J., NEWTOWN, BOARD OF EDUCATION
EDRS PRICE MF-$0.50 HC-$0.44 61P.

DESCRIPTORS- *CAMPING, *CONSERVATION, *FIELD TRIPS, *GRADES 1-6, *GRADES 7-12, *INSERVICE TEACHER EDUCATION, *OUTDOOR PROGRAMS, *RECREATIONAL PROGRAMS, *YEAR ROUND PROGRAMS, ADULT EDUCATION, CULTURAL EXCHANGE, DEMONSTRATION CENTERS, NATURAL RESOURCES, PRESCHOOL CHILDREN, SCIENCES, VOCATIONAL EDUCATION.

ES 000 326
STUDY TOWARD EXEMPLARY PROGRAM. N.H. SALEM, CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.12 25P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *CURRICULUM DEVELOPMENT, *GRADES 1-6, *GRADES 7-12, *MATHEMATICS, *SOCIAL STUDIES, ADULT EDUCATION, CHILDREN, COMMUNITY STUDY, WORKSHOPS.

ES 000 329
CULTURAL DEVELOPMENT FOR PRESCHOOL CHILDREN, STUDENTS, AND ADULTS BY INSTRUCTIONAL TELEVISION. MISS., TUPELO, MUNICIPAL SEPARATE SCHOOL DIST.
EDRS PRICE MF-$0.25 HC-$1.08 27P.

DESCRIPTORS, *ELEMENTARY SCIENCE, *FINE ARTS, *GRADES 1-6, *INSTRUCTIONAL TELEVISION, *LITERATURE PROGRAMS, *PRESCHOOL CHILDREN, ADULT EDUCATION, CULTURAL ENRICHMENT, LECTURE.

ES 000 340
CONSERVATION, RECREATION AND OUTDOOR SCIENCE SCHOOL (PROJECT CROSS). CALIF., SAN ANDREAS, COUNTY SUPT. OF SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.24 31P.

DESCRIPTORS- *GRADE 11, *GRADE 12, *GRADES 7-12, *OUTDOOR PROGRAMS, *WORK EXPERIENCE PROGRAMS, COLLEGE PREPARATION, CONSERVATION, DROPOUTS, NATURAL RESOURCES, NATURAL SCIENCES, RECREATION, VOCATIONAL EDUCATION.

ES 000 342
ALAMEDA COUNTY SUPPLEMENTAL SERVICES CENTER FOR ASSURANCE OF CREATIVITY. CALIF., HAYWARD, ALAMEDA COUNTY SUPT. OF SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.40 35P.

DESCRIPTORS- *ECOLOGY, *ENGLISH, *FINE ARTS, *GRADES 1-6, *GRADES 7-12, *INSERVICE TEACHER EDUCATION, *KINDERGARTEN, *LABORATORIES, CORE CURRICULUM, INFORMATION DISSEMINATION, SPECIALISTS.

ES 000 355
OCEANOGRAPHIC EDUCATION CENTER. MASS., FALMOUTH, TOWN SCHOOL COMMITTEE
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS, *INSERVICE TEACHER EDUCATION, *OCEANOLOGY, *SCIENCE CENTERS, CONSERVATION, CURRICULUM DEVELOPMENT, MATERIAL DEVELOPMENT, NATURAL SCIENCES, TEACHER WORKSHOPS, TUTORING.

ES 000 357
SUMMER TEACHER-STUDENT SCIENCE PROJECT. MASS., BOLTON, NASHOBA REGIONAL SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$0.84 21P.

DESCRIPTORS- *BIOLOGY, *GRADES 7-12, *INSERVICE TEACHER EDUCATION, *SUMMER PROGRAMS, TALENTED STUDENTS, OUTDOOR PROGRAMS, *TALENTED STUDENTS, OUTDOOR PROGRAMS, RESEARCH.

ES 000 358
INDOOR-OUTDOOR SCIENCE CENTER. MD., OAKLAND, GARRETT COUNTY BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$0.92 23P.

DESCRIPTORS- *GRADES 7-12, *GRADES 1-6, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *SCIENCE CENTERS, ASTRONOMY, CAMPING, LABORATORIES, LIBRARIES, PLANETARIUMS, STUDY CENTERS.

ES 000 365
LOUISIANA ARTS AND SCIENCE CENTER. LA., BATON ROUGE, EAST PARISH SCHOOL BOARD
EDRS PRICE MF-$0.25 HC-$0.36 9P.

DESCRIPTORS- *ARTS CENTERS, EXHIBITS, *GRADES 1-6, *GRADES 7-12, *SCIENCE CENTERS, BUILDING DESIGN.

ES 000 366
LOUISIANA ARTS AND SCIENCE CENTER. LA., BATON ROUGE, EAST PARISH SCHOOL BOARD
EDRS PRICE MF-$0.25 HC-$1.60 40P.

DESCRIPTORS- *SCIENCE CENTERS, ADVANCED PROGRAMS, ARCHAEOLOGY, EDUCATIONAL TELEVISION, EXHIBITS, LIBRARIES, MOBILE UNITS, UNITS, MUSEUMS, PLANETARIUMS.

ES 000 368
OWENSBORO AREA NATURAL SCIENCE MOBILE PROJECTS. KY., OWENSBORO, PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.04 26P.

DESCRIPTORS- *EXHIBITS, *GRADES 1-6, *GRADES 7-12, *MOBILE UNITS, *MUSEUMS, *NATURAL SCIENCES, EDUCATIONALLY DISADVANTAGED, LECTURE.

ES 000 375
PILOT MODEL, MOBILE ELECTRONICS LABORATORY. IDAHO, RUPERT, MINIDOKA COUNTY JOINT SCHOOL DISTRICT 331
EDRS PRICE MF-$0.25 HC-$1.04 26P.

DESCRIPTORS- *ELECTRONICS, *GRADES 1-6, *GRADES 7-12, *MOBILE LABORATORIES.

ES 000 376
PROGRAM OF OUTDOOR EDUCATION. IDAHO, AMERICAN FALLS, SCHOOL DISTRICT 361
EDRS PRICE MF-$0.25 HC-$0.68 17P.

DESCRIPTORS- *COUNSELING, *GRADE 7, *GRADES 7-12, *OUTDOOR PROGRAMS, *RECREATIONAL PROGRAMS, *SUMMER PROGRAMS, JUNIOR HIGH SCHOOLS, PILOT PROJECTS, TRANSFER STUDENTS.

ES 000 380
FERNBANK SCIENCE CENTER. GA., DECATUR, DEKALB COUNTY BD. OF EDUCATION
EDRS PRICE MF-$0.25 HC-$1.28 32P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *MUSEUMS, *OUTDOOR PROGRAMS, PLANETARIUMS, *SCIENCE CENTERS, ADVANCED PROGRAMS, NATURAL SCIENCES, PHYSICAL SCIENCES.

ES 000 381
PLANATERIUM, OBSERVATORY, AND EXHIBITION CENTER FOR BREVARD COUNTY. FLA., TITUSVILLE, BREVARD COUNTY BD. OF PUB. INST.
EDRS PRICE MF-$0.25 HC-$0.88 22P.

DESCRIPTORS- *ASTRONOMY, *GRADES 1-6, *GRADES 7-12, *PLANETARIUMS, *SCIENCE CENTERS, *SPACE SCIENCES, COMMUNITY COOPERATION, EXHIBITS.

ES 000 388
TALCOTT RIDGE SCIENCE CENTER FOR STUDENT INVOLVEMENT. CONN., AVON, BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$0.88 22P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *SCIENCE CENTERS, ASTRONOMY, CONCEPT TEACHING, GEOLOGY, INSERVICE PROGRAMS, INTERDISCIPLINARY APPROACH, PHYSICAL SCIENCES, PLANETARIUMS, SPACE SCIENCES, TALENTED STUDENTS.

ES 000 391
DEVELOPING CREATIVE AND CRITICAL THINKING THROUGH AN ELEMENTARY SCHOOL SCIENCE PROGRAM. COLO., BOULDER, BOULDER VALLEY SCHOOL DIST. RE. 2
EDRS PRICE MF-$0.25 HC-$1.28 32P.

DESCRIPTORS- *CREATIVE THINKING, *CRITICAL THINKING, *ELEMENTARY SCIENCE, *GRADES 1-6.

ES 000 393
NORTHERN SAN JOAQUIN VALLEY COUNTIES SUPPLEMENTARY EDUCATION CENTER. CALIF., STOCKTON, SAN JOAQUIN COUNTY SUPT. OF SCH.
EDRS PRICE MF-$0.25 HC-$1.56 39P.

DESCRIPTORS- *CULTURAL ENRICHMENT, *GRADES 1-6, *GRADES 7-12, *SCIENCE PROGRAMS, *SOCIAL SCIENCES, CONSERVATION, EDUCATIONAL TELEVISION, FINE ARTS, INSERVICE PROGRAMS, LABORATORIES.

ES 000 394
PLANNING GRANT FOR AN ORANGE COUNTY SUPPLEMENTARY EDUCATIONAL CENTER. CALIF., SANTA ANA, ORANGE COUNTY SUPT. OF SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.32 33P.

DESCRIPTORS- *CULTURAL CENTERS, *GRADES 1-6, *GRADES 7-12, *SCIENCE CENTERS, ADULT EDUCATION, CULTURAL ENRICHMENT, CURRICULUM IMPROVEMENT, DROPOUTS, GIFTED, LOW INCOME, NON-ENGLISH SPEAKING, POPULATION GROWTH, PRESCHOOL PROGRAMS.

ES 000 399
CENTRAL CALIFORNIA LABORATORY FOR LEARNING. CALIF., FRESNO, COUNTY SCHOOLS
EDRS PRICE MF-$0.25 HC$2.32 58P.

DESCRIPTORS- *GRADE 6, *GRADES 1-6, *GRADES 7- 12., *OUTDOOR PROGRAMS, *SCIENCE PROGRAMS, *SUMMER PROGRAMS, COMMUNITY RESOURCES, ECOLOGY, FINE ARTS, INSERVICE PROGRAMS, NATURAL RESOURCES, PILOT PROJECTS, SOCIAL SCIENCES.

ES 000 407
PLANNING STUDY--SIX SCHOOL DISTRICTS. R.I., MIDDLETOWN, THE SCHOOL COMMITTEE
EDRS PRICE MF-$0.25 HC-$0.80 20P.

DESCRIPTORS-*FINE ARTS, *GRADES 1-6, *GRADES 7-12, *HUMANITIES, *KINDERGARTEN, *SCIENCES, ENRICHMENT PROGRAMS.

ES 000 419
REGIONAL ELEMENTARY SCHOOL TEACHER UPGRADING PROJECT. CONN., WATERTOWN BOARD OF EDUCATION.
EDRS PRICE MF-$0.25 HC-$1.24 31P.

DESCRIPTORS- *ELEMENTARY SCIENCE, *GRADES 1-6, *INSERVICE TEACHER EDUCATION, *MODERN MATHEMATICS, *SUMMER SCHOOLS, DEMONSTRATION PROGRAMS, SPECIALISTS, TEACHER IMPROVEMENT.

ES 000 431
MARINE SCIENCE STATION. FLA., INVERNESS, CITRUS COUNTY BD. OF PUB.INST.
EDRS PRICE MF-$0.25 HC-$0.52 13P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *OCEANOLOGY, *SCIENCE CENTERS, ADVANCED PROGRAMS, EDUCATIONAL TELEVISION, FIELD TRIPS, NATURAL SCIENCES, RADIO.

ES 000 436
CONSERVATION CENTER OF CREATIVE THINKING. WYO., LANDER, SCHOOL DISTRICT 1
EDRS PRICE MF-$0.25 HC-$0.80 20P.

DESCRIPTORS- *CONSERVATION, *GEOLOGY, *GRADES 1-6, *GRADES 7-12, NATURAL SCIENCES, SCIENCE CENTERS.

ES 000 437
WESTERN WYOMING HERITAGE. WYO., GREEN RIVER SCHOOL DISTRICT 2
EDRS PRICE MF-$0.25 HC-$0.84 21P.

DESCRIPTORS- *CONSERVATION, *CULTURAL BACKGROUND, *EXCHANGE PROGRAMS, *INSTRUCTIONAL MATERIALS CENTERS, *NATURAL RESOURCES, MUSEUMS, NATURAL SCIENCES, OUTDOOR PROGRAMS.

ES 000 453
CREATIVE APPLICATION OF TECHNOLOGY TO EDUCATION (CATE). TEX., CORPUS CHRISTI, INDEP. SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.64 41P.

DESCRIPTORS- *CURRICULUM PLANNING, *INSERVICE PROGRAMS, *SCIENCE PROGRAMS, ELEMENTARY SCIENCE, INSTRUCTIONAL MATERIALS CENTERS, MUSEUMS, OCEANOLOGY PILOT PROJECTS, SPACE SCIENCES, STUDENT TEACHERS.

ES 000 454
DEVELOPMENT OF A COMPREHENSIVE CURRICULUM FOR ASTRONOMY, SPACE SCIENCE AND RELATED AREAS. PA., WEST CHESTER, JOINT HIGH SCHOOL BOARD
EDRS PRICE MF-$0.25 HC-$1.08 27P.

DESCRIPTORS- *ASTRONOMY, *GRADES 1-6, *GRADES 7-12, *SEQUENTIAL PROGRAMS, *SPACE SCIENCES, ADVANCED PLACEMENT, CULTURAL BACKGROUND, CURRICULUM PLANNING, INSERVICE TEACHER EDUCATION, PLANETARIUMS, VOCATIONAL EDUCATION.

ES 000 462
WEST BABYLON EDUCATIONAL CENTER. N.Y., WEST BABYLON, CITY SCHOOLS
EDRS PRICE MF-$0.25 HC-$0.60 15P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *HORTICULTURE, *OCEANOLOGY, *PLANETARIUMS, GIFTED, SCIENCE CENTERS, SEQUENTIAL PROGRAMS, SPACE SCIENCES.

ES 000 464
DEVELOPMENT OF A UNIQUE EDUCATIONAL AND CULTURAL MARINE SCIENCE CENTER. N.C., BEAUFORT, CARTERET COUNTY BOARD OF ED.
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *OCEANOLOGY *SCIENCE CENTERS, ADVANCED PROGRAMS, DEMONSTRATIONS, EXHIBITS, LECTURE, RADIO, TEACHER WORKSHOPS, TELEVISION.

ES 000 465
JUNIOR EXPLORERS-LEARNING CENTERS (SUMMER CREATIVE LEARNING CENTERS FOR ELEMENTARY SCHOOL PUPILS). OHIO, AKRON, BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$1.64 41P.

DESCRIPTORS- *CREATIVITY, *GRADE 4, *GRADE 5, *GRADE 6, *GRADES 1-6, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *SUMMER PROGRAMS, ART, COMMUNICATION SKILLS, CONSERVATION, INDEPENDENT STUDY, INSERVICE TEACHER EDUCATION, MUSIC, PHYSICAL EDUCATION, STUDENT GROUPING, TEAM TEACHING.

ES 000 470
MOHICAN SCHOOL IN THE OUT-OF-DOORS. OHIO, ONTARIO, SPRINGFIELD LOCAL BOARD OF ED.
EDRS PRICE MF-$0.25 HC-$1.00 23P.

DESCRIPTORS- *CAMPING, *DEMOCRATIC VALUES, *GRADE 6, *GRADES 1-6, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, ASTRONOMY, CONSERVATION, MUSEUMS, TEAM TEACHING.

ES 000 474
TEACHER-STUDENT WORKSHOP IN NUCLEAR SCIENCE. PA., BETHLEHEM, AREA SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.40 35P.

DESCRIPTORS- *ATOMIC THEORY, *GRADE 11, *GRADES 7-12, *WEEKEND PROGRAMS, *WORKSHOPS, BIOLOGY, CHEMISTRY, FIELD TRIPS, INDUSTRIAL EDUCATION, INSERVICE PROGRAMS, LABORATORY EXPERIMENTS, PHYSICS.

ES 000 475
REGIONAL SUPPLEMENTARY EDUCATIONAL CENTER. PA., CALIFORNIA, JOINT BOARD OF TRI-COUNTY SCH. DIR.
EDRS PRICE NF-$0.25 HC-$1.48 37P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *CURRICULUM DEVELOPMENT, *GRADES 1-6, *GRADES 7-12, INSERVICE PROGRAMS, *SCIENCES.

ES 000 482
STUDY TO DETERMINE THE EDUCATIONAL POTENTIAL OF THE TYLER ARBORETUM AND THE JEFFORDS STATE PARK. PA., LIMA, ROSE TREE UNION SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.52 38P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *PARKS, CONSERVATION, CURRICULUM PLANNING, FIELD TRIPS, HORTICULTURE, INSERVICE PROGRAMS, MATERIAL DEVELOPMENT.

ES 000 489
REGIONAL CENTER FOR STUDY AND IMPROVEMENT OF ELEMENTARY SCIENCE EDUCATION. N.Y., SCOTTSVILLE, WHEATLAND-CHILI CENTRAL SCH.
EDRS PRICE MF-$0.25 HC$1.24 31P.

DESCRIPTORS- *CURRICULUM PLANNING, *ELEMENTARY SCIENCE, *GRADES 1-6, *RESOURCE CENTERS, DEMONSTRATION PROGRAMS, INSERVICE TEACHER EDUCATION, PRESERVICE EDUCATION.

ES 000 494
INSERVICE TEACHER EDUCATION COURSES IN ART AND SCIENCE FOR NEW HAMPSHIRE ELEMENTARY CLASSROOM TEACHERS. N.H., HAMPTON, SUPERVISORY UNION 21
EDRS PRICE MF-$0.25 HC-$1.72 43P.

DESCRIPTORS- *ART, *ELEMENTARY SCHOOL TEACHERS, *INSERVICE TEACHER EDUCATION, *INSTRUCTIONAL TELEVISION, *SCIENCES, TEACHER IMPROVEMENT.

ES 000 501
OUTDOOR EDUCATION. N.J., LINDEN, BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$2.08 52P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, *YEAR ROUND PROGRAMS, BUILDING IMPROVEMENT, CAMPING, CURRICULUM ENRICHMENT, INSERVICE PROGRAMS, INTERDISCIPLINARY APPROACH, SCIENCES.

ES 000 509
ONONDAGA COUNTY EDUCATIONAL AND CULTURAL CENTER. N.Y., CAMILLUS, CENTRAL SCHOOL DISTRICT 1
EDRS PRICE MF-$0.25 HC-$1.32 33P.

DESCRIPTORS- *ADVANCED PROGRAMS, *LIBRARY SERVICES *MUSEUMS, *OUTDOOR PROGRAMS, *PSYCHOLOGICAL SERVICES, *REMEDIAL INSTRUCTION, *SUMMER PROGRAMS, ADULT EDUCATION, ARITHMETIC, EDUCATIONAL TELEVISION, INSERVICE TEACHER EDUCATION, INSTRUCTIONAL MATERIALS, LANGUAGE DEVELOPMENT, RADIO, READING, VOLUNTEERS.

ES 000 516
NORTHWEST OKLAHOMA EDUCATIONAL MATERIALS CENTER. OKLAHOMA, ENID, BD. OF ED. DISTRICT 57
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *FINE ARTS, *INSTRUCTIONAL MATERIALS CENTERS, *INTERCULTURAL PROGRAMS, *SCIENCE CENTERS, CULTURAL EXCHANGE, MEDIA SPECIALISTS, MINORITY GROUPS, PLANETARIUMS.

ES 000 519
MULTI-MEDIA INSTRUCTIONAL CENTER. ARK., EL DORADO, SCHOOL DISTRICT 15
EDRS PRICE MF-$0.25 HC-$1.28 32P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *CLOSED CIRCUIT TELEVISION, *GRADES 1-6, *GRADES 7-12, *INSTRUCTIONAL MATERIALS CENTER, *OUTDOOR PROGRAMS, INSERVICE TEACHER EDUCATION, LABORATORIES.

ES 000 527
LOUISIANA ARTS AND SCIENCE CENTER. LA., BATON ROUGE, EAST PARISH SCHOOL BOARD
EDRS PRICE MF-$0.25 HC-$1.72 43P.

DESCRIPTORS- *EXHIBITS, *GRADES 1-6, *GRADES 7-12, *PLANETARIUMS, INSERVICE PROGRAMS, SCIENCE CENTERS, VOLUNTEERS.

ES 000 528
REGIONAL CULTURAL RESOURCES CENTER. ARIZ., TUSCON, PIMA COUNTY SCHOOL DISTRICT 1
EDRS PRICE MF-$0.25 HC-$0.76 19P.

DESCRIPTORS- *ARTS, *RESOURCE CENTERS, *SCIENCES, *SENSORY EXPERIENCE, MATHEMATICS.

ES 000 532
SURVEY OF EDUCATIONAL AND CULTURAL RESOURCES OF BEDFORD, BLAIR, CAMBRIA, SOMERSET COUNTIES WITH SPECIAL EMPHASIS ON NEEDS OF EXCEPTIONAL CHILDREN, NEEDS OF INSTRUCTIONAL MATERIALS, NEEDS OF CULTURALLY DEPRIVED. PA., DUNCANSVILLE, ELEMENTARY SCHOOL
EDRS PRICE MF-$0.25 HC-$0.92 23P.

DESCRIPTORS- *COUNSELING, *CULTURAL ACTIVITIES, *GRADES 1-6, *GRADES 7-12, *INSTRUCTIONAL MATERIALS, *OUTDOOR PROGRAMS, *SPECIAL EDUCATION, *VOCATIONAL EDUCATION, CAMPING, EXCEPTIONAL CHILDREN, MOBILE UNITS, PHYSICAL EDUCATION, RECREATIONAL PROGRAMS, RURAL SCHOOLS.

ES 000 551
PILOT NATURE CENTER PROGRAM. DEL., GREENWOOD, SCHOOL NO. 91
EDRS PRICE MF-$0.25 HC-$1.20 30P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, CURRICULUM DEVELOPMENT, SCIENCE ACTIVITIES, SCIENCE EXPERIMENTS.

ES 000 553
CENTER OF SCIENCE AND INDUSTRY. OHIO, CINCINNATI, BD. OF ED., CITY SCHOOL DIST.
EDRS PRICE MF-$0.50 HC-$3.96 99P.

DESCRIPTORS- *EXHIBITS, *GRADES 1-6, *GRADES 7-12, *INSERVICE TEACHER EDUCATION, *KINDERGARTEN, *MOBILE LABORATORIES, *SCIENCE CENTERS, *SCIENCE PROGRAMS, CAREER PLANNING, COLLEGE STUDENTS, COMMUNITY RESOURCES, DEMONSTRATIONS, (EDUCATIONAL), ENGINEERING, ENRICHMENT PROGRAMS, GIFTED, HOBBIES, SEMINARS.

ES 000 556
MID-SOUTH REGIONAL SCIENCE CENTER. TENN., MEMPHIS, CITY SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.92 48P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *INSERVICE PROGRAMS, *LIBRARIES, *PLANETARIUMS, *SCIENCE CENTERS, *SUMMER PROGRAMS, CLOSED CIRCUIT TELEVISION, COLLEGE STUDENTS, DEMONSTRATION PROGRAMS, FIELD TRIPS, INSTRUCTIONAL MATERIALS, MOBILE UNITS, MUSEUMS, NATURAL SCIENCES, SCIENCE LABORATORIES, SPACE SCIENCES.

ES 000 560
CENTRAL PENNSYLVANIA OUTDOOR EDUCATION PROJECT. PA., BELLFONTE, CENTRE COUNTY BOARD OF ED.
EDRS PRICE MF-$0.50 HC-$3.24 81P.

DESCRIPTORS- *GRADES 1-6, *INSERVICE TEACHER EDUCATION *KINDERGARTEN, *OUTDOOR PROGRAMS, ENVIRONMENT, SUMMER WORKSHOPS.

ES 000 564
CONSERVATION AND ENVIRONMENTAL SCIENCE IN SOUTHERN NEW JERSEY. N.J., GLASBORO, BOROUGH BOARD OF EDUCATION.
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTORS- *CONSERVATION, *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *NATURAL RESOURCES, *OUTDOOR PROGRAMS, YEAR ROUND PROGRAMS, DROPOUTS, ENVIRONMENTAL INFLUENCES, HANDICAPPED, INSERVICE PROGRAMS, STUDENT TEACHERS.

ES 000 572
TRI-COUNTY EDUCATIONAL RESEARCH FOUNDATION CENTER. ILL., PEORIA, COUNTY SUPT. OF SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.04 26P.

DESCRIPTORS- *AUDIOVISUAL AIDS, *MUSIC ACTIVITIES, *PLANETARIUMS, *REMEDIAL PROGRAMS, CULTURAL ENRICHMENT, EXHIBITS, MUSEUMS, SPACE SCIENCES.

ES 000 577
INTEGRATING OUTDOOR EDUCATION WITH A FLEXIBLE ACADEMIC-VOCATIONAL CURRICULUM. MICH., GRAND HAVEN, BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$1.48 37P.

DESCRIPTORS- *DROPOUTS, *GRADES 1-6, *GRADES 7-12, *INTEGRATED CURRICULUM, *KINDERGARTEN, *OUTDOOR PROGRAMS, *TERMINAL STUDENTS, *VOCATIONAL EDUCATION, FLEXIBLE SCHEDULING, MATHEMATICS, POTENTIAL DROPOUTS, SCIENCES, WORK EXPERIENCE PROGRAMS.

ES 000 584
INTERDISCIPLINARY OUTDOOR EDUCATION PROGRAM. WASH., SEATTLE, SHORELINE SCHOOL DISTRICT 412
EDRS PRICE MF-$0.25 HC-$2.04 51P.

DESCRIPTORS- *CONSERVATION, *GRADES 1-6, *GRADES 7-12, *INTERDISCIPLINARY APPROACH, *OUTDOOR PROGRAMS, ART, BIOLOGY, CREATIVE WRITING, ECOLOGY, ENGLISH, FIELD TRIPS, NATURAL RESOURCES, SCIENCES.

ES 000 586
COMPUTER USES IN EDUCATION, CALIF., SANTA BARBARA, ELEM-HIGH SCHOOL DIST.
EDRS PRICE MF-$0.25 HC-$1.32 33P.

DESCRIPTORS- *COMPUTER ORIENTED PROGRAMS, *CONTROL GROUPS, *EXPERIMENTAL PROGRAMS, *GRADES 7-12, *MATHEMATICS, *PHYSICS.

ES 000 591
NATURAL HISTORY MUSEUM AND RESEARCH CENTER. CALIF., SAN LORENZO, UNIFIED SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.08 27P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *MUSEUMS, *NATURAL RESOURCES, *STUDENT RESEARCH, ECOLOGY, EXHIBITS, FIELD TRIPS, GEOLOGY, INSERVICE PROGRAMS.

ES 000 592
EXPLORING NATURE'S CLASSROOM. MICH., COLDWATER CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.50 HC-$3.72 93P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *SCIENCE CENTERS, *YEAR ROUND PROGRAMS, AGRICULTURE, ASTRONOMY, CONSERVATION, GEOLOGY, INSERVICE PROGRAMS.

ES 000 595
MATHEMATICS AND SCIENCE CENTER. VA., RICHMOND, CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.50 HC-$3.72 93P.

DESCRIPTORS- *COMPUTER PROGRAMS, *GRADES 1-6, *GRADES 7-12, *MATHEMATICS, *PLANETARIUMS, *SCIENCE CENTERS, EXPERIMENTS, MUSEUMS, PHYSICAL SCIENCES, PROGRAMING, TALENTED STUDENTS.

ES 000 604
CAMPING SCHOOL. N.J., KEARNY, BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$1.56 39P.

DESCRIPTORS- *CAMPING, *GRADE 6, *OUTDOOR PROGRAMS, *SCIENCES, *STUDENT TEACHER RELATIONSHIP, ART, CONSERVATION, DRAMATICS, MUSIC.

ES 000 611
PLANNING FOR OUTDOOR EDUCATION. KANS., TOPEKA, UNIFIED SCHOOL DISTRICT 345
EDRS PRICE MF-$0.25 HC-$1.08 27P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *YEAR ROUND PROGRAMS, FINE ARTS, HISTORY, RECREATION.

ES 000 620
KERSHAW AREA SUPPLEMENTARY EDUCATIONAL SERVICES CENTER. S.C., CAMDEN, KERSHAW COUNTY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.80 45P.

DESCRIPTORS- *COMMUNICATIONS, *CULTURAL ACTIVITIES, *PSYCHOLOGICAL SERVICES, *SCIENCE PROGRAMS, ADULT EDUCATION, AUDIOVISUAL AIDS, CULTURALLY DISADVANTAGED, GIFTED, HANDICAPPED, PRESCHOOL PROGRAMS, REMEDIAL INSTRUCTION, RETARDATION, RURAL AREAS, SCIENCE CENTERS, TEACHING TECHNIQUES, VOCATIONAL EDUCATION.

ES 000 624
WISCONSIN REGIONAL SPACE CENTER. WIS., MILWAUKEE, BOARD OF SCHOOL DIRECTORS
EDRS PRICE MF-$0.25 HC-$1.24 31P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *INTERDISCIPLINARY APPROACH, *SCIENCE CENTERS, *SIMULATION, *SPACE SCIENCES, HUMANITIES, INSERVICE PROGRAMS, PLANETARIUMS, SCIENCES.

ES 000 637
SOUTHWEST MISSOURI EDUCATIONAL IMPROVEMENT CENTER MO., WEBB CITY, R-7 SCHOOL

DISTRICT
EDRS PRICE MF-$0.25 HC-$1.36 34P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *LANGUAGE ARTS, *MATHEMATICS, DEVELOPMENTAL READING, ENGLISH, INITIAL TEACHING ALPHABET, INSERVICE PROGRAMS, MODERN MATHEMATICS, PROGRAMED INSTRUCTION, REMEDIAL READING, SPELLING.

ES 000 654
NORTHWEST LOUISIANA SUPPLEMENTARY EDUCATIONAL CENTER AND SERVICES--CURRICULUM IMPROVEMENT IN SCIENCE FOR EXCEPTIONAL CHILDREN. LA., BENTON, BOSSIER PARISH SCHOOL BOARD
EDRS PRICE MF-$0.50 HC-$3.96 99P.

DESCRIPTORS- *EXCEPTIONAL CHILDREN, *GRADES 1-6, *GRADES 7-12, *INSERVICE TEACHER EDUCATION, *KINDERGARTEN, *RESOURCE CENTERS, *SCIENCE PROGRAMS, GIFTED, HANDICAPPED, INDEPENDENT STUDY, LABORATORIES, NATURAL SCIENCES, PLANETARIUMS, SPACE SCIENCES.

ES 000 655
REGIONAL NATURAL RESOURCE EDUCATION AND DEMONSTRATION CENTER. ILL., SYCAMORE, DEKALB COUNTY SUPT. OF SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.40 35P.

DESCRIPTORS- *CONSERVATION, *NATURAL RESOURCES, SCIENCE CENTERS, SCIENCES, SOCIAL STUDIES.

ES 000 663
SOUTH BRONX MULTI-PURPOSE SUPPLEMENTARY EDUCATIONAL CENTER. N.Y., BROOKLYN, BD. OF ED., CITY OF NEW YORK.
EDRS PRICE MF-$0.50 HC-$2.88 72P.

DESCRIPTORS- *CULTURAL BACKGROUND, *FINE ARTS, *LANGUAGE ARTS, *MATHEMATICS, *PARENT PARTICIPATION, ART, CULTURAL ENRICHMENT, MUSIC, NEGRO, PROGRAMED INSTRUCTION, PUERTO RICAN, SPACE SCIENCES, TEACHER AIDES.

ES 000 670
NAPA EXPERIMENTAL FOREST. CALIF., NAPA, NAPA VALLEY UNIFIED SCHOOL DIST.
EDRS PRICE MF-$0.25 HC-$2.04 51P.

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *DELINQUENCY PREVENTION, *DROPOUT PREVENTION, *GRADES 1-6, *GRADES 7-12, *SCIENCE PROGRAMS, CONSERVATION, NATURAL SCIENCES, WORK STUDY PROGRAMS.

ES 000 676
MODERN SCIENCE SEMINAR. N.H., HENNIKER, SCHOOL DISTRICT.
EDRS PRICE MF-$0.25 HC-$2.20 55P.

DESCRIPTORS- *GRADES 7-12, *SCIENCE PROGRAMS, *SEMINARS, *STUDENT RESEARCH, *TALENTED STUDENTS, *WEEKEND PROGRAMS, BIOLOGY, CHEMISTRY, COLLEGE COOPERATION, ELECTRONICS, MATHEMATICS.

ES 000 678
OUTDOOR SCHOOL IN CONSERVATION. MONT., ALBERTON, JOINT SCHOOL DISTRICT 2.
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTORS- *CONSERVATION, *GRADE 6, *GRADE 7, *OUTDOOR PROGRAMS.

ES 000 681
AVAILABILITY OF SUPPLEMENTAL EDUCATIONAL RESOURCES THROUGH THE USE OF A PLANETARIUM. NEBR., GRAND ISLAND, SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.52 38P.

DESCRIPTORS- *AUDIOVISUAL CENTERS, *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN *PLANETARIUMS, *SPACE SCIENCES, CURRICULUM PLANNING, INSERVICE TEACHER EDUCATION, VIDEO TAPE RECORDINGS.

ES 000 700
WEST MET. MASS., WELLESLEY, SCHOOL DEPARTMENT
EDRS PRICE MF-$0.25 HC-$2.08 52P.

DESCRIPTORS- *ADVANCED PLACEMENT, *CULTURAL ACTIVITIES, *CURRICULUM DEVELOPMENT, *HANDICAPPED, *SCIENCE PROGRAMS.

ES 000 705
BIOLOGICAL AND SOIL CONSERVATION LABORATORY. MO., EDINA, KNOX COUNTY R-1 SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.08 27P.

DESCRIPTORS- *BIOLOGY, *CONSERVATION, *GRADES 1-6, *GRADES 7-12, *NATURAL SCIENCES, DEMONSTRATION CENTERS, INSERVICE TEACHER EDUCATION.

ES 000 709
SUPPLEMENTARY CENTER FOR OUTDOOR EDUCATION AND CONSERVATION EDUCATION. N.Y., GREAT NECK, PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.76 44P.

DESCRIPTORS- *CAMPING, *CONSERVATION, *CURRICULUM GUIDES, *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, AUDIOVISUAL AIDS, RECREATION, REFERENCE MATERIALS.

ES 000 712
COOPERATIVE WORK-LEARN CONSERVATION AND RESOURCE-USE PROGRAM. WIS., PORTAGE, COOP. EDUCATIONAL AGENCY 12
EDRS PRICE MF-$0.25 HC-$1.56 39P.

DESCRIPTORS- *CONSERVATION, *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, *SUMMER PROGRAMS, *WORK STUDY PROGRAMS, NATURAL RESOURCES.

ES 000 715
PROPOSAL TO ESTABLISH AND MAINTAIN A CONSERVATION AND WILDLIFE STUDY AREA. MONT., MISSOULA, COUNTY H.S. BOARD OF TRUSTEES
EDRS PRICE MF-$0.25 HC-$1.32 33P.

DESCRIPTORS- *CONSERVATION, *GRADES 7-12, *OUTDOOR PROGRAMS, BIOLOGY, INSERVICE TEACHER EDUCATION, NATURAL SCIENCES.

ES 000 7[illegible]7
REGIONAL OUTDOOR EDUCATION PROGRAM. OREG., PORTLAND, MULTNOMAH COUNTY INT. ED. DIST.
EDRS PRICE MF-$0.25 HC-$0.92 23P.

DESCRIPTORS- *CONSERVATION, *GRADE 6, *NATURAL RESOURCES, *OUTDOOR PROGRAMS.

ES 000 724
SUPPLEMENTARY EDUCATIONAL CENTERS AND SERVICES FOR CURRICULUM ENRICHMENT IN NORTHEASTERN VERMONT. VT., ST. JOHNSBURY, SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$2.04 51P.

DESCRIPTORS- *EDUCATIONAL DEMONSTRATIONS, *GRADES 1-6, *GRADES 7-12, *LECTURE, *MUSEUMS, *SCIENCE PROGRAMS, CONSULTANTS, CURRICULUM ENRICHMENT, GIFTED, INSERVICE TEACHER EDUCATION, RURAL YOUTH.

ES 000 739
COOPERATIVE PROJECT TO PROVIDE SUPPLEMENTAL SERVICES TO A GROUP OF ELEMENTARY AND SECONDARY SCHOOLS OF NEW MEXICO. N. MEX., BAYARD, COBRE PUBLIC SCHOOL DISTRICT.
EDRS PRICE MF-$0.25 HC-$1.68 42P.

DESCRIPTORS- *BIOLOGY, *CONSULTATION PROGRAMS, *GRADES 1-6, *GRADES 7-12, *INSTRUCTIONAL MATERIALS, *MATERIAL DEVELOPMENT, *MOBILE UNITS, *REMEDIAL READING, EXHIBITS, GUIDANCE, INSERVICE PROGRAMS.

ES 000 747
DEEP RIVER OUTDOOR EDUCATION CENTER. IND., GARY, COMMUNITY SCHOOL CORPORATION
EDRS PRICE MF-$0.25 HC-$1.16 29P.

DESCRIPTORS- *CAMPING, *ENRICHMENT PROGRAMS, *OUTDOOR PROGRAMS.

ES 000 749
AREA PLANNING FOR OUTDOOR EDUCATION. MINN., GRANITE FALLS, INDEP. SCHOOL DIST. 894
EDRS PRICE MF-$0.25 HC-$0.60 19P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, INSERVICE TEACHER EDUCATION, MENTALLY HANDICAPPED.

ES 000 752
ASTRONOMY AND RELATED SPACE SCIENCES LABORATORY. W. VA., CHARLESTON, KANAWHA COUNTY BD. OF ED.
EDRS PRICE MF-$0.25 HC-$1.24 31P.

DESCRIPTORS- *ASTRONOMY, *SPACE SCIENCES, ABLE STUDENTS, HANDICAPPED CHILDREN, INSERVICE PROGRAMS, PLANETARIUMS, SCIENCE PROGRAMS.

ES 000 759
INDOOR-OUTDOOR EDUCATIONAL-RECREATIONAL PLANNING PROGRAM. OHIO, MENTOR, EXEMPTED VILLAGE SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$0.84 21P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, *RECREATIONAL PROGRAMS, COMMUNITY SUPPORT, HANDICAPPED CHILDREN.

ES 000 768
MARINE PILOT PROGRAM. CALIF., SANTA ANA, ORANGE COUNTY SUPT. OF SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.40 35P.

DESCRIPTORS- *BIOLOGY, *GRADES 7-12, *OCEANOLOGY, AUDIOVISUAL AIDS, ECOLOGY, GEOLOGY, MOBILE LABORATORIES, NATURAL RESOURCES.

ES 000 770
COMPUTER-ASSISTED INSTRUCTION LABORATORY IN MATHEMATICS AND SCIENCE. MO., KANSAS CITY, BOARD OF EDUCATION
EDRS PRICE MF-$0.25 HC-$1.00 25P.

DESCRIPTORS- *COMPUTER ASSISTED INSTRUCTION, *GRADE 7, *GRADE 8, *MATHEMATICS, GROUP INSTRUCTION, INDIVIDUAL INSTRUCTION, SCIENCES, SELF PACING MACHINES, SIMULATION.

ES 000 774
ACCELERATING DIFFUSION OF INNOVATIVE SCIENCE PROGRAMS. CALIF., RIVERSIDE, OFFICE OF COUNTY SUPT. OF SCHOOLS
EDRS PRICE MF-$0.25 HC-$2.28 57P.

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *DEMONSTRATION PROJECTS, *GRADES 1-6, *GRADES 7-12, *SCIENCE EDUCATION, INSERVICE TEACHER EDUCATION, TEACHER ATTITUDES.

ES 000 778
SUPERIOR CALIFORNIA EDUCATIONAL RESOURCES AGENCY. CALIF., SACRAMENTO, SACRAMENTO COUNTY DEPT. OF ED.
EDRS PRICE MF-$0.25 HC-$1.28 32P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *INSERVICE PROGRAMS, *INSTRUCTIONAL MATERIALS CENTERS, *SCIENCE CENTERS, AUDIO-VISUAL AIDS, CONSULTANTS, MATERIALS PRODUCTION, MOBILE LABORATORIES, MUSEUMS.

ES 000 785
SCIENCE CENTER (PINELLAS COUNTY, FLORIDA). FLA., CLEARWATER, PINELLAS COUNTY BD. OF PUB. INST.
EDRS PRICE MF-$0.50 HC-$3.68 92P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, INDIVIDUALIZED PROGRAMS, *SCIENCE PROGRAMS, *STUDENT RESEARCH, *TALENTED STUDENTS, *YEAR ROUND PROGRAMS, SCIENCE CENTERS, VOLUNTEERS, WORKSHOPS.

ES 000 797
YOUTH MUSEUM SERVICES FOR THE IMPROVEMENT OF UNDERSTANDING OF SCIENTIFIC CHANGES IN THE MODERN WORLD.
EDRS PRICE MF-$0.25 HC-$2.08 52P.

DESCRIPTORS *GRADES 1-6, *GRADES 7-12, *MUSEUMS, *SCIENCE PROGRAMS, ASTRONOMY, EXHIBITS, FIELD TRIPS, INDUSTRY, NATURAL SCIENCES, OCEANOLOGY, SCIENTIFIC CONCEPTS.

ES 000 799
PLANNING FOR THE DEVELOPMENT AND OPERATION OF A FARM-OUTDOOR EDUCATION RESOURCE CENTER IN COOPERATION WITH THE FOREST PRESERVE DISTRICT, COOK COUNTY, ILLINOIS, TO PROVIDE STUDENTS FROM THE PUBLIC AND NON-PUBLIC SCHOOLS WITH DIRECT LEARNING EXPERIENCES. ILL., PALATINE, COMMUNITY CONSOLIDATED SCH. DIST. 15
EDRS PRICE MF-$0.25 HC-$0.64 16P.

DESCRIPTORS- *AGRICULTURE, *CULTURAL RESOURCES, *OUTDOOR PROGRAMS, ECOLOGY, ECONOMICS, FOOD, HUMANITIES, MATHEMATICS, NATURAL SCIENCES, SOIL CONSERVATION.

ES 000 802
BOOTSTRAP. ILL., NILES, EAST MAINE SCHOOL DISTRICT 63
EDRS PRICE MF-$0.25 HC-$0.96 24P.

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *GRADES 1-6, *GRADES 7-12, *INSERVICE PROGRAMS, *MATHEMATICS, *READING, *SCIENCES, *SOCIAL STUDIES, GROUPING PROCEDURES, INDIVIDUAL INSTRUCTION, PROGRAMED INSTRUCTION, SEQUENTIAL PROGRAMS, TEAM TEACHING.

ES 000 815
KINGSBURY OBSERVATORY AND ASTRONOMICAL EDUCATIONAL CENTER. CALIF., KINGSBURG., JOINT UNION HIGH SCHOOL DIST.
EDRS PRICE MF-$0.25 HC-$1.52 38P.

DESCRIPTORS- *ASTRONOMY, *GRADES 1-6, *GRADES 7-12, *SCIENCE CENTERS, ADVANCED STUDENTS, CURRICULUM PLANNING, LECTURE, SPACE SCIENCES.

ES 000 818
DEVELOPMENT OF INSTRUCTIONAL OBJECTIVES FOR RADIATION SCIENCE PROGRAM. CALIF., CULVER CITY, UNIFIED SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.36 34P.

DESCRIPTORS- *ATOMIC THEORY, *GRADES 7-12, CURRICULUM DEVELOPMENT, SCIENCES, SEQUENTIAL PROGRAMS, SOCIAL SCIENCES, SYSTEMS APPROACH.

ES 000 829
PLANNING A SPACE LEARNING PROGRAM. CALIF., NEWPORT BEACH, NEWPORT-MESA UNIF. SCH. DIST.
EDRS PRICE MF-$0.25 HC-$1.32 33P.

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *GRADES 1-6, *GRADES 7-12, *SCIENCE PROGRAMS, *SPACE SCIENCES, INSERVICE TEACHER EDUCATION.

ES 000 839
INSTRUCTIONAL, RESEARCH, AND DEMONSTRATION LABORATORY IN THE BIOLOGICAL SCIENCES FOR ELEMENTARY AND SECONDARY SCHOOL PUPILS. MINN., MINNEAPOLIS, INDEPENDENT SCHOOL DIST. 275.
EDRS PRICE MF-$0.25 HC-$1.36 34P.

DESCRIPTORS- *BIOLOGICAL SCIENCES, *GRADES 1-6, *GRADES 7-12, *INDEPENDENT STUDY, *INSERVICE TEACHER EDUCATION, *LABORATORIES, *STUDENT RESEARCH, CURRICULUM DEVELOPMENT, DEMONSTRATION PROGRAMS.

ES 000 850
SOUTHWEST IOWA LEARNING RESOURCES CENTER. IOWA, RED OAK, COMMUNITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.08 27P.

DESCRIPTORS- *COUNSELING SERVICES, *INSTRUCTIONAL MATERIALS CENTERS, *LEARNING LABORATORIES, PLANETARIUMS, DROPOUTS, INSERVICE TEACHER EDUCATION, MATERIAL DEVELOPMENT, SCIENCES, VOCATIONAL COUNSELING.

ES 000 864
OUTDOOR NATURAL SCIENCE LABORATORY IN UNIVERSITY CITY, MISSOURI. MO., UNIVERSITY CITY SCHOOL DISTRICT.
EDRS PRICE MF-$0.25 HC-$0.92 23P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *LABORATORIES, *NATURAL SCIENCES, OUTDOOR PROGRAMS.

ES 000 868
COASTAL BEND EDUCATIONAL PROJECT—OUTDOOR EDUCATION AND HUMAN DEVELOPMENT. TEX., CORPUS CHRISTI, FLOUR BLUFF IND. SCH. DIST.
EDRS PRICE MF-$0.25 HC-$1.00 25P.

DESCRIPTORS- *CONSERVATION, *GRADES 1-6, *GRADES 7-12, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, *PHYSICAL FITNESS, FIELD TRIPS, LABORATORIES, SOCIAL STUDIES.

ES 000 873
PLANETARIUM-ATMOSPHERIUM-OCEANARIUM UNIT OF A SUPPLEMENTARY EDUCATIONAL CENTER. MASS., WORCESTER, PUBLIC SCHOOLS.
EDRS PRICE MF-$0.25 HC-$0.60 15P.

DESCRIPTORS- *ASTRONOMY, *GRADES 1-6, *GRADES 7-12, *OCEANOLOGY, *PLANETARIUMS, *PROJECTION EQUIPMENT, SCIENCE CENTERS.

ES 000 877
EARTH-SPACE SCIENCE LABORATORY. MINN., ROBBINSDALE, IND. SCH. DISTRICT 281
EDRS PRICE MF-$0.25 HC-$0.92 23P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *LABORATORIES, *PLANETARIUMS, *SCIENCE CENTERS, *SIMULATION, ASTRONOMY, BIOLOGY, CHEMISTRY, EXPERIMENTS, PHYSICS, SPACE SCIENCES.

ES 000 880
OUTDOOR EDUCATIONAL CENTER. LA., ST. MARTINVILLE, ST. MARTIN PARISH SCH. BD.
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTOPS- *BIOLOGY, *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, *SCIENCE CENTERS, *STUDENT RESEARCH, *YEAR ROUND PROGRAMS, LABORATORIES, NATURAL SCIENCES.

ES 000 881
FLINT HILLS ELEMENTARY SCIENCE. KANSAS., HAMILTON, UNIFIED SCHOOL DISTRICT 390
EDRS PRICE MF-$0.25 HC-$1.84 46P.

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *GRADE 6, *GRADE 7, *GRADE 8, *SCIENCES, *TEACHER WORKSHOPS, SUMMER SCHOOLS, TEACHER IMPROVEMENT.

ES 000 912
PLANNING FOR THE UTILIZATION OF THE FULL POTENTIAL OF THE CENTER OF SCIENCE AND INDUSTRY AS A SUPPLEMENTARY EDUCATIONAL CENTER. OHIO, COLUMBUS, CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$0.84 21P.

DESCRIPTORS- *CAREER PLANNING, *ENRICHMENT ACTIVITIES, *SCIENCE CENTERS, ABLE STUDENTS, DISADVANTAGED YOUTH, EXHIBITS, HISTORY, INSERVICE TEACHER EDUCATION, SCIENCE LABORATORIES.

ES 000 920
OUTDOOR EDUCATION LABORATORY. MICH., CONSTANTINE, PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$0.64 16P.

DESCRIPTORS- *BIOLOGY, *CONSERVATION, *ECOLOGY, *GRADES 1-6, *GRADES 7-12, *LABORATORIES, *OUTDOOR PROGRAMS, NATURAL RESOURCES.

ES 000 922
LOWELL ENVIRONMENTAL ARTS AND SCIENCE CENTER. MASS., LOWELL, PUBLIC SCHOOLS.
EDRS PRICE MF-$0.25 HC-$1.36 34P.

DESCRIPTORS- *ELEMENTARY SCHOOL STUDENTS, OUTDOOR PROGRAMS, *SCIENCE CENTERS, *STUDENT TEACHERS, CONSERVATION, CURRICULUM DEVELOPMENT, FACILITY EXPANSION, TEACHER EDUCATION.

ES 000 948
COOPERATIVE SUMMER SCHOOL CAMP. COLO., ALAMOSA, SAN LUIS VALLEY BD. OF COOP. SVCS.
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTORS- *CAMPING, *CLINICAL DIAGNOSIS, *DISADVANTAGED YOUTH, *GIFTED, *SUMMER SCHOOLS, FINE ARTS, HUMANITIES, OUTDOOR PROGRAMS, SCIENCE PROGRAMS.

ES 000 950
EDUCATIONAL PROJECT FOR NATURAL RESOURCES CONSERVATION. TEX., NEW BRAUNFELS, COMAL COUNTY SCHOOLS.
EDRS PRICE MF-$0.25 HC-$1.12 28P.

DESCRIPTORS- *CONSERVATION, *EDUCATIONAL DEMONSTRATIONS, *NATURAL RESOURCES, AUDIOVISUAL AIDS, EXHIBITS, FIELD TRIPS, LECTURE, MOBILE UNITS, TEACHING GUIDES.

ES 000 960
BEYOND FOUR WALLS. WASH., KIRKLAND, LAKE WASHINGTON SCH. DIST. 414
EDRS PRICE MF-$0.25 HC-$1.04 26P.

DESCRIPTORS- *CONSERVATION, *GRADES 1-6, *GRADES 7-12, *OUTDOOR PROGRAMS, ECOLOGY, ECONOMICS, EXCEPTIONAL CHILDREN, FACILITIES, INSERVICE PROGRAMS.

ES 000 979
FOSTERING CREATIVITY AND CULTURAL AWARENESS. OKLA., ADA, IND. SCH. DIST. 16, PONTOTOC COUNTY
EDRS PRICE MF-$0.50 HC-$3.24 81P.

DESCRIPTORS- *CULTURAL ENRICHMENT, *DRAMATICS, *FIELD TRIPS, *GRADES 1-6, *GRADES 7-12, *LIBRARIES, *MUSIC, *SCIENCES, CREATIVITY.

ES 001 002
OUTDOOR EDUCATIONAL CAMP. UTAH, AMERICAN FOLK, ALPINE SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.36 34P.

DESCRIPTORS- *CAMPING, *CONSERVATION EDUCATION, *GRADE 5, *NATURAL SCIENCES, CURRICULUM PLANNING.

ES 001 006
NATURE STUDY CENTER. N.H., KEENE, MONADNOCK REGIONAL SCHOOL DISTRICT.
EDRS PRICE MF-$0.25 HC-$2.20 55P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, OUTDOOR PROGRAMS, AGRICULTURE, ART, BIOLOGY, CONSERVATION EDUCATION, NATURAL SCIENCES, PHOTOGRAPHY.

ES 001 017
SEATTLE ARTS AND SCIENCE CENTER—SCIENCE AND MATHEMATICS COMPONENT. WASH., SEATTLE, SCHOOL DISTRICT 1
EDRS PRICE MF-$0.50 HC-$2.64 66P.

DESCRIPTORS- *ASTRONOMY, *INSERVICE PROGRAMS, *MATHEMATICS, *SCIENCE LABORATORIES, SCIENCE CENTERS, TALENTED STUDENTS.

ES 001 018
DEVELOPING AND UTILIZING CULTURAL RESOURCES. OKLA., OKLAHOMA CITY, IND. SCHOOL DISTRICT 89.
EDRS PRICE MF-$0.25 HC-$2.18 54P.

DESCRIPTORS- *FIELD TRIPS, *GRADES 1-6, *GRADES 7-12, *MUSIC ACTIVITIES, *SCIENCE PROGRAMS, *STORY TELLING, *THEATER ARTS, CONCERTS, CULTURAL ENRICHMENT, MUSIC TECHNIQUES.

ES 001 045
DETERMINATION OF NEEDS AND REQUIREMENTS FOR A CONSERVATION EDUCATION AND OUTDOOR EDUCATION LABORATORY IN THE NORTHERN SUBURBAN FRINGE OF THE STANDARD COLUMBUS METROPOLITAN AREA. OHIO, WORTHINGTON, EXEMPTED VILLAGE SCHOOL DIST.
EDRS PRICE MF-$0.25 HC-$0.88 22P.

DESCRIPTORS- *CONSERVATION EDUCATION, *GRADES 1-6, *GRADES 7-12, *LABORATORIES, *OUTDOOR PROGRAMS, ADVANCED PLACEMENT, CAMPING, CURRICULUM ENRICHMENT, INSERVICE PROGRAMS.

ES 001 051
PLANETARIUM AND MUSEUM OF ARTS AND SCIENCES. IDAHO, TWIN FALLS, SCHOOL DISTRICT 411.
EDRS PRICE MF-$0.25 HC-$0.84 21P.

DESCRIPTORS- *GRADES 1-6, *GRADES 7-12, *MUSEUMS, *PLANETARIUMS, *SCIENCE CENTERS, FACILITY EXPANSION.

ES 001 059
OUTDOOR LABORATORY. DEL., NEWARK, SPECIAL SCHOOL DISTRICT.
EDRS PRICE MF-$0.25 HC-$2.00 50P.

DESCRIPTORS- *CONSERVATION EDUCATION, *GRADES 1-6, *GRADES 7-12, *LABORATORIES, *NATURAL SCIENCES, *OUTDOOR PROGRAMS, CURRICULUM GUIDES, ECOLOGY, FIELD TRIPS, TEACHER WORKSHOPS.

ES 001 065
REGIONAL INSTRUCTIONAL MEDIA CENTER AND MUSEUM. WYO., GREYBULL, SCH. DIST. 41 AND H.S. DIST. 1
EDRS PRICE MF-$0.25 HC-$1.56 39P.

DESCRIPTORS- *EXPERIMENTS, *FIELD TRIPS, *GEOLOGY, *GRADES 1-6, *GRADES 7-12, *INSTRUCTIONAL MATERIALS CENTERS, *MUSEUMS, HISTORY, INSERVICE PROGRAMS.

ES 001 072
CONCRETE ROOTS. N.Y., BROOKLYN, BD. OF ED. CITY OF NEW YORK.
EDRS PRICE MF-$0.25 HC-$1.04 26P.

DESCRIPTORS- *COMMUNICATION SKILLS, *CULTURAL BACKGROUND, *FINE ARTS, *GRADES 1-6, *GRADES 7-12, *MATHEMATICS, *SCHOOL COMMUNITY COOPERATION, *SPACE SCIENCES, ART, LANGUAGE ARTS, LANGUAGE HANDICAPS, MINORITY GROUPS, MUSIC, PARENT PARTICIPATION, SELF CONCEPT.

SCIENCE EDUCATION REPORTS
IN
RESEARCH IN EDUCATION

ED 010 002
SCIENTIFIC LITERACY IN THE AEROSPACE AGE.
PELLA, MILTON O. AND OTHERS
UNIV. OF WISCONSIN, MADISON.
EDRS PRICE MF-$0.75 HC-$7.56 189P.
PUB DATE JAN 66
DESCRIPTORS- *CITIZENSHIP RESPONSIBILITY, *LITERACY, *SCIENCE EDUCATION, *SCIENTIFIC ATTITUDES, *SCIENTIFIC CONCEPTS, COLLEGES, ELEMENTARY SCHOOLS, LITERATURE GUIDES, MADISON, SECONDARY SCHOOLS, WISCONSIN.

ED 010 025
THE REPRESENTATIONAL ROLE OF DEMONSTRATIONS IN TEACHING CONCEPTS AND PRINCIPLES IN SCIENCE, STUDIES IN TELEVISED INSTRUCTION, AND DIMENSIONS OF VISUAL REPRESENTATION.
GROPPER, GEORGE L. AND OTHERS
METROPOLITAN PITTSBURGH EDUCATIONAL TV. STATION.
EDRS PRICE MF-$0.75 HC-$6.60 165P.
DESCRIPTORS- *CONCEPT TEACHING, *DEMONSTRATION PROGRAMS, *INSTRUCTIONAL IMPROVEMENT, *SCIENCE INSTRUCTION, *TELEVISED INSTRUCTION, PENNSYLVANIA, PERCEPTION, PITTSBURGH, TEACHING TECHNIQUES.

ED 010 081
AN EXPERIMENTAL STUDY IN THE USE OF PROGRAMED MATERIALS FOR SEVENTH-GRADE OPEN-ENDED LABORATORY EXPERIENCES.
CARNES, PHYLLIS E.
UNIV. OF GEORGIA, ATHENS.
EDRS PRICE MF-$0.00 HC-$8.48 227P.
PUB DATE 66
DESCRIPTORS- *EFFECTIVE TEACHING, GENERAL SCIENCE, *PROBLEM SOLVING, *PROGRAMED INSTRUCTION, *SCIENCE LABORATORY, ATHENS, EDUCATIONAL EXPERIENCES, GEORGIA, INSTRUCTIONAL TECHNOLOGY, GRADE 7.

ED 010 089
INFLUENCES ON STUDENTS UNDERSTANDING OF SCIENCE.
CRUMB, GLENN H. ABEGG, GERALD L.
KANSAS STATE TEACHERS COLLEGE, EMPORIA.
EDRS PRICE MF-$0.50 HC-$3.52 88P.
PUB DATE 31 MAY 66
DESCRIPTORS- *CHEMISTRY, *PHYSICS INSTRUCTION, *SCIENCE CURRICULUM, *SCIENCE INSTRUCTION, *TEACHING METHODS, EMPORIA, IOWA, IOWA, TEST OF EDUCATIONAL DEVELOPMENT SCIENCE TEST, KANSAS, MISSOURI, NEBRASKA, OTIS QUICK SCORING MENTAL ABILITIES TEST, PHYSICS CURRICULUM, SCIENCE COURSES, SCIENCE EDUCATION, TEACHER EVALUATION, THE TEST ON UNDERSTANDING SCIENCE (TOUS).

ED 010 099
TECHNIQUES FOR EVALUATING THE LEARNING PROCESS IN ENGINEERING EDUCATION.
KORN, HAROLD A. WISE, LAURESS L.
STANFORD UNIV., CALIFORNIA.
EDRS PRICE MF-$0.50 HC-$3.04 76P.
PUB DATE 66
DESCRIPTORS- *ACADEMIC APTITUDE, *ACADEMIC PERFORMANCE, *ENGINEERING, *GRADE POINT AVERAGE, *GRADING, CALIFORNIA, CURRICULUM PLANNING, HIGHER EDUCATION, INNOVATIONS, LEARNING PROCESSES, STANFORD.

ED 010 292
EFFECT OF VARIED PRESENTATIONS OF LABORATORY EXERCISES WITHIN PROGRAMED MATERIALS ON SPECIFIC INTELLECTUAL FACTORS OF SCIENCE PROBLEM SOLVING BEHAVIOR.
NASCA, DONALD
STATE UNIV. OF NEW YORK
EDRS PRICE MF-$0.50 HC-$2.92 73P.
PUB DATE 31 DEC 65
DESCRIPTORS- *MOTIVATION, *PROBLEM SOLVING, *PROGRAMED INSTRUCTION, *SCIENCE EDUCATION, *TEST CONSTRUCTION, BROCKPORT, JUNIOR HIGH SCHOOLS, LEARNING LABORATORIES, LINEAR PROGRAMING, NEW YORK, PRODUCTIVE THINKING, SCIENCE LABORATORIES, STIMULUS BEHAVIOR, STRUCTURE OF INTELLECT (SI).

ED 010 338
AN INVENTORY OF SCIENCE METHODS.
BUTTS, DAVID P.
UNIV. OF TEXAS, AUSTIN.
EDRS PRICE MF-$0.50 HC-$3,24 81P.
PUB DATE AUG 26
DESCRIPTORS- *ELEMENTARY SCHOOL STUDENTS, *PROBLEM SOLVING, *SCIENCE EDUCATION, *STUDENT BEHAVIOR, AUSTIN, MEASUREMENT INSTRUMENTS, PSYCHOMETRICS, QUESTIONING TECHNIQUES, TAB SCIENCE TEST, TEXAS.

ED 010 377
INDIVIDUAL DIFFERENCES IN LEARNING FROM VISUAL AND VERBAL PRESENTATIONS AND THE USE OF VISUAL EXAMPLES IN REVIEW.
GAGNE, ROBERT M. AND OTHERS
AMERICAN INSTITUTES FOR RES. IN BEHAVIORAL SCIENCES.
EDRS PRICE MF-$0.50 HC-$4.96 124P.
PUB DATE DEC 65
DESCRIPTORS- *INSTRUCTIONAL MATERIALS, *LEARNING PROCESSES, *SCIENCE INSTRUCTION, *VERBAL LEARNING, *VISUAL LEARNING, APTITUDE, AUDIOVISUAL AIDS, GRADE 8, INDIVIDUAL DIFFERENCES, INSTRUCTIONAL FILMS, PENNSYLVANIA, PITTSBURGH, TEACHING METHODS.

ED 010 421
MOTIVATION AND LEARNING--A COMPARATIVE STUDY OF PROGRAMS PRESENTED BY VIDEO TAPE WITH AND WITHOUT MOTIVATING MATERIALS.
ALDRIDGE, BILL G.
ST. LOUIS JR. COLL. DIST. FLORISSANT VALLEY COMM. COLL.
EDRS PRICE MF-$0.25 HC-$2.16 54P.
PUB DATE NOV 66
DESCRIPTORS- *ACHIEVEMENT RATING, *LEARNING MOTIVATION, *MOTIVATION TECHNIQUES, *PHYSICS INSTRUCTION, *TELEVISED INSTRUCTION, LEARNING ACTIVITIES, MISSOURI, PROGRAMED MATERIALS, ST. LOUIS, TELECOURSES, VIDEO TAPE RECORDINGS.

ED 010 433
AN EIGHT WEEK SUMMER INSTITUTE TRAINING PROGRAM TO TRAIN INSTRUCTORS OF INSTRUMENTATION TECHNOLOGY.
ZIOL, FRANK J.
PASADENA CITY COLL., CALIF.
EDRS PRICE MF-$0.25 HC-$1.44 36P.
PUB DATE 1 DEC 66
DESCRIPTORS- *INSTITUTE TYPE COURSES, *INSTRUMENTATION, *SCIENCE PROGRAMS, *TEACHER EDUCATION, *VOCATIONAL EDUCATION, CALIFORNIA, INSTRUCTIONAL IMPROVEMENT, PASADENA, SUMMER PROGRAMS, TRAINING.

ED 010 565
THE ORGANIZATION OF A BIOLOGY COURSE FOR INDIVIDUAL PROGRESS AT THEODORE HIGH SCHOOL AN INTRODUCTION.
BRATTEN, JACK E.
SYSTEM DEVELOPMENT CORP., SANTA MONICA, CALIF.
EDRS PRICE MF-$0.25 HC-$0.52 13P.
PUB DATE 7 DEC 65
DESCRIPTORS- *BIOLOGY INSTRUCTION, *HIGH SCHOOL ORGANIZATION, *INDIVIDUALIZED PROGRAMS, *INSTRUCTIONAL INNOVATION, *SIMULATION, *SYSTEMS ANALYSIS, ALABAMA, CALIFORNIA, HIGH SCHOOLS, PROGRAMED INSTRUCTION, SANTA MONICA.

ED 010 566
THE ORGANIZATION OF A BIOLOGY COURSE FOR INDIVIDUAL PROGRESS AT THEODORE HIGH SCHOOL-DESCRIPTIVE ANALYSIS.
BRATTEN J. E.
SYSTEM DEVELOPMENT CORP., SANTA MONICA, CALIFORNIA.
EDRS PRICE MF-$0.25 HC-$0.84 21P.
PUB DATE 9 DEC 65
DESCRIPTORS- *BIOLOGY INSTRUCTION, *INDIVIDUALIZED PROGRAMS, *INSTRUCTIONAL INNOVATION, *PROGRAMED INSTRUCTION, *SYSTEMS ANALYSIS, ALABAMA, CALIFORNIA, HIGH SCHOOLS, SIMULATION.

ED 010 567
THE ORGANIZATION OF A COURSE FOR INDIVIDUAL PROGRESS AT THEODORE HIGH SCHOOL-SYSTEM ANALYSIS AND SIMULATION.
BRATTEN, JACK E.
SYSTEM DEVELOPMENT CORP., SANTA MONICA, CALIFORNIA.
EDRS PRICE MF-$0.25 HC-$1.68 43P.
PUB DATE 15 MAR 66
DESCRIPTORS- *BIOLOGY INSTRUCTION, *COURSE ORGANIZATION, *HIGH SCHOOL ORGANIZATION, *INDIVIDUAL INSTRUCTION, *SIMULATION, *SYSTEMS ANALYSIS, CALIFORNIA, COMPUTER ORIENTED PROGRAMS, INSTRUCTIONAL MATERIALS, LABORATORY SCHOOLS, SANTA MONICA, TEACHING METHODS.

ED 010 608
TO DEVELOP A SYSTEM FOR ANALYSING THE REACTIONS OF TEACHERS AND STUDENTS IN BIOLOGY CLASSES.
PARAKH, JAL S.
CORNELL UNIVERSITY, ITHACA, NEW YORK.
EDRS PRICE MF-$1.00 HC-$8.00 200P.
PUB DATE 65
DESCRIPTORS- *BIOLOGY, *BIGLOGY INSTRUCTION, *INTERACTION, *INTERACTION PROCESS ANALYSIS, *SCIENCE INSTRUCTION, ITHACA, NEW YORK, SCIENCE EDUCATION, SYSTEMS ANALYSIS, SYSTEMS APPROACH, SYSTEMS DEVELOPMENT.

ED 010 632
A COMPARISON OF VARIOUS TECHNIQUES FOR THE DISSEMINATION OF A NEW SCIENCE CURRICULUM IN FLORIDA.
WESTMEYER, PAUL AND OTHERS
FLORIDA STATE UNIV., TALLAHASSEE.
EDRS PRICE MF-$0.75 HC-$6.00 150P.
PUB DATE MAR 67
DESCRIPTORS- *EFFECTIVE TEACHING, *INSERVICE COURSES, *PRIMARY EDUCATION, *SCIENCE CURRICULUM, *TEACHER EDUCATION, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, TALLAHASSEE, AUTOINSTRUCTIONAL METHODS, COMPARATIVE ANALYSIS, FLORIDA, INFORMATION DISSEMINATION, INSERVICE TEACHER EDUCATION, INSTITUTE TYPE COURSES, KINDERGARTEN, SCIENCE INSTRUCTION.

ED 010 645
STUDY OF CHARACTERISTICS CONTRIBUTING TO THE EFFECTIVENESS OF VISUAL DEMONSTRATIONS.
BOGUSLAVSKY, GEORGE W.
RENNSSELAER POLYTECHNIC INST., TROY, NEW YORK.
EDRS PRICE MF-$0.25 HC-$1.12 28P.
PUB DATE 4 APR 67
DESCRIPTORS- *AUDIOVISUAL AIDS, *GRAPHIC ARTS, *ILLUSTRATIONS, *SCIENCE INSTRUCTION, *VISUAL LEARNING, AUDIOVISUAL INSTRUCTION, COLLEGE STUDENTS, FILMS, HIGH SCHOOL STUDENTS, NEW YORK, SCIENCE COURSES, TROY, VISUAL PERCEPTION.

ED 010 748
ENGLISH AS A SECOND LANGUAGE AND A TECHNIQUE FOR TEACHING SCIENCE.
SMITH, PHILIP D. MAREAN, JOHN H.

NEVADA STATE DEPT. OF EDUCATION, CARSON CITY.
EDRS PRICE MF-$0.25 HC-$0.84 21P.
PUB DATE 66
DESCRIPTORS- *AMERICAN INDIANS, *ENGLISH (SECOND LANGUAGE), *SCIENCE EDUCATION, *VOCABULARY DEVELOPMENT, CARSON CITY, LANGUAGE FLUENCY, LEARNING THEORIES, PHONOLOGY.

ED 010 756
THE READABILITY OF SCIENCE TEXTBOOKS FOR ELEMENTARY SCHOOL.
NEWPORT, JOHN F.
EDRS PRICE MF-$0.25 HC-$0.24 6P.
PUB DATE OCT 65
DESCRIPTORS- *ELEMENTARY SCIENCE, *READABILITY, *READING DIFFICULTY, *TEXTBOOK EVALUATION, INSTRUCTIONAL MATERIALS, SPACE FORMULA, YOAKAM FORMULA.

ED 010 761
REPORT OF THE INTERNATIONAL CLEARINGHOUSE ON SCIENCE AND MATHEMATICS CURRICULAR DEVELOPMENTS 1966.
LOCKARD, J. DAVID
MARYLAND UNIV., COLLEGE PARK, AMERICAN ASSN. FOR THE ADVANCEMENT OF SCIENCE.
EDRS PRICE MF-$1.25 HC-$12.48 312P.
PUB DATE 66
DESCRIPTORS- *COLLEGE SCIENCE, *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *MATHEMATICS EDUCATION, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, BIBLIOGRAPHIES, COLLEGE PARK, DISTRICT OF COLUMBIA, NATIONAL SCIENCE FOUNDATION.

ED 010 762
THE STATUS OF PHYSICS TEACHING IN NORTH CAROLINA.
ANDERSON, NORMAN D. GOODE, JOHN M.
NORTH CAROLINA UNIV., RALEIGH, N.C. STATE UNIV., NORTH CAROLINA STATE BOARD OF EDUCATION, RALEIGH.
EDRS PRICE MF-$0.25 HC-$0.48 12P.
PUB DATE 28 DEC 65
DESCRIPTORS- *PHYSICS, *PHYSICS TEACHERS, *SECONDARY SCHOOL SCIENCE, *TEACHER EDUCATION, *TEACHER QUALIFICATIONS, CHAPEL HILL, COLLEGE SCIENCE, RALEIGH.

ED 010 763
A STUDY OF LARGE GROUP-SMALL GROUP INSTRUCTION IN REGENTS CHEMISTRY COMPARED TO CONVENTIONAL INSTRUCTION.
WINTER, STEPHEN S. AND OTHERS
STATE UNIV., N.Y.
EDRS PRICE MF-$0.50 HC-$5.12 128P.
PUB DATE APR 65
DESCRIPTORS- *CHEMISTRY, *LARGE GROUP INSTRUCTION, *SECONDARY SCHOOL SCIENCE, *SMALL GROUP INSTRUCTION, ACHIEVEMENT, BUFFALO, CONVENTIONAL INSTRUCTION, ROCHESTER.

ED 010 764
THE COMPUTER IN PHYSICS INSTRUCTION, REPORT OF THE CONFERENCE ON USES OF THE COMPUTER IN UNDER-GRADUATE PHYSICS INSTRUCTION (UNIV., OF CALIF., IRVINE, NOVEMBER 4-6, 1966).
COMMISSION ON COLLEGE PHYSICS, ANN ARBOR, MICHIGAN.
EDRS PRICE MF-$0.50 HC-$3.88 97P.
PUB DATE 65
DESCRIPTORS- *COLLEGE SCIENCE, *COMPUTER ASSISTED INSTRUCTION, *PHYSICS, ANN ARBOR, CONFERENCES, INSTRUCTION, IRVINE, LEARNING.

ED 010 765
INTEGRATED EXPERIENCE APPROACH TO LEARNING.
POSTLETHWAIT, S.N. AND OTHERS
PURDUE UNIV., LAFAYETTE, IND.
EDRS PRICE MF-$0.50 HC-$4.96 124P.
PUB DATE 64
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *BOTANY, *COLLEGE SCIENCE, *INSTRUCTION, *LEARNING, AUDIOVISUAL AIDS, BIOLOGY, INSTRUCTIONAL MATERIALS, LAFAYETTE, PROGRAMED INSTRUCTION.

ED 010 766
THE DEVELOPMENT AND TESTING OF INSTRUCTIONAL MATERIALS FOR GIFTED PRIMARY PUPILS, FINAL REPORT.
SANDS, THEODORE HICKLIN, CHARLES R.
ILLINOIS STATE UNIVERSITY, NORMAL.
EDRS PRICE MF-$0.50 HC-$2.76 69P.
PUB DATE 65
DESCRIPTORS- *ELEMENTARY SCHOOL SCIENCE, *INDIVIDUAL INSTRUCTION, *INSTRUCTION, *PROGRAMED INSTRUCTION, ABLE STUDENTS, AUDIOVISUAL INSTRUCTION, MATHEMATICS EDUCATION, NORMAL, PHYSICAL SCIENCES, PRIMARY EDUCATION.

ED 010 767
VIEWPOINTS ON UNDERGRADUATE COLLEGE SCIENCE PROGRAMS.
EISS, ALBERT F.
NATIONAL SCIENCE TEACHERS ASSN., WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$3.36 84P.
PUB DATE 66
DESCRIPTORS- *BIOLOGY, *CHEMISTRY, *COLLEGE SCIENCE, *HIGHER EDUCATION, *PHYSICAL SCIENCES, *TEACHER EDUCATION, DISTRICT OF COLUMBIA, GENERAL EDUCATION, SHELL COMPANIES FOUNDATION, SPEECHES.

ED 010 768
THE STATUS OF SCIENCE IN THE PUBLIC SCHOOLS OF IOWA. PART III, SENIOR HIGH SCHOOLS
PORTER, T.R. AND OTHERS
IOWA UNIV., IOWA CITY
EDRS PRICE MF-$0.25 HC-$2.16 54P.
PUB DATE 66
DESCRIPTORS- *COURSE CONTENT, *EVALUATION, *SECONDARY SCHOOL SCIENCE, BIOLOGICAL SCI-

ENCES CURRICULUM STUDY, BIOLOGY, CHEMICAL BOND APPROACH, CHEMICAL EDUCATION MATERIALS STUDY, CHEMISTRY, CURRICULUM DEVELOPMENT, DES MOINES, EARTH SCIENCE, GENERAL SCIENCE, INSERVICE TEACHER EDUCATION, IOWA CITY, PHYSICAL SCIENCE STUDY COMMITTEE, PHYSICS, TEACHER QUALIFICATIONS, TEACHING PROCEDURES.

ED 010 769
THE STATUS OF SCIENCE IN THE PUBLIC SCHOOLS OF IOWA. PART II, JUNIOR HIGH SCHOOL.
PORTER, T. R. AND OTHERS
IOWA UNIV., IOWA CITY
EDRS PRICE MF-$0.25 HC-$1.72 43P.
PUB DATE 65
DESCRIPTORS- *COURSE CONTENT, *CURRICULUM DEVELOPMENT, *EVALUATION, *SECONDARY SCHOOL SCIENCE, BIOLOGY, DES MOINES, GENERAL SCIENCE, GRADE 7, GRADE 8, GRADE 9, INSERVICE TEACHER EDUCATION, IOWA CITY, PHYSICAL SCIENCES, TEACHER QUALIFICATIONS, TEACHING PROCEDURES.

ED 010 770
THE STATUS OF SCIENCE IN THE PUBLIC SCHOOLS OF IOWA, PART I, ELEMENTARY SCHOOL.
PORTER, T.R. AND OTHERS
IOWA UNIV., IOWA CITY,
EDRS PRICE MF-$0.25 HC-$1.48 37P.
PUB DATE 64
DESCRIPTORS- *COURSE CONTENT, *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *EVALUATION, DES MOINES, INSERVICE TEACHER EDUCATION, IOWA CITY, TEACHER QUALIFICATIONS, TEACHING PROCEDURES.

ED 010 802
ELEMENTARY QUANTITATIVE CHEMISTRY, A LABORATORY TEXT.
GILREATH, ESMARCH S. AND OTHERS
WASHINGTON AND LEE UNIV., LEXINGTON, VA.
EDRS PRICE MF$0.75 HC-$5.60 140P.
PUB DATE 66
DESCRIPTORS- *CHEMISTRY, *INSTRUCTIONAL MATERIALS, *LABORATORY EXPERIMENTS, *MANUALS, *TEXTBOOK EVALUATION, ACADEMIC PERFORMANCE, COLLEGE STUDENTS, COURSE ORGANIZATION, INNOVATION, LEXINGTON, SCIENCE LABORATORIES, TEXTBOOK PREPARATION.

ED 010 819
TWENTIETH CENTURY LYRICS, SCIENCE AND POETRY. LITERATURE CURRICULUM IV, STUDENT VERSION.
KITZHABER, ALBERT R.
OREGON UNIV., EUGENE.
EDRS PRICE MF-$0.50 HC-$2.36 59P.

DESCRIPTORS- *CURRICULUM GUIDES, *LITERATURE GUIDES, *POETRY, *SCIENCE, *STUDY GUIDES, COMPOSITION (LITERARY), CURRICULUM RESEARCH, ENGLISH CURRICULUM, EUGENE, GRADE 10, INSTRUCTIONAL MATERIALS, LITERATURE, NEW GRAMMAR, PROJECT ENGLISH, SECONDARY EDUCATION.

ED 010 990
THE USE OF INSERVICE PROGRAMS TO DIAGNOSE SOURCES OF RESISTANCE TO INNOVATION.
ROWE, MARY BUDD HURD, PAUL DEHART.
EDRS PRICE MF-$0.25 HC-$0.68 17P.
PUB DATE 66
DESCRIPTORS- *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *INSERVICE TEACHER EDUCATION, *BIOLOGY, INNOVATION, INSERVICE PROGRAMS, PHYSICAL SCIENCES.

ED 010 991
BIOLOGICAL EDUCATION IN AMERICAN SECONDARY SCHOOLS 1890-1960.
HURD, PAUL DEHART
AMERICAN INST. OF BIOLOGICAL SCIENCES,
EDRS PRICE MF-$1.25 HC-$10.76 269P.
PUB DATE 1 FEB 61
DESCRIPTORS- *BIOLOGY, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES, CURRICULUM STUDY, COURSE CONTENT, CURRICULUM, DISTRICT OF COLUMBIA, EDUCATIONAL OBJECTIVES, HISTORY, NATIONAL SCIENCE FOUNDATION, TEACHING METHODS, TEXTBOOKS, BIOLOGICAL SCIENCES.

ED 010 993
COOPERATIVE DEVELOPMENT OF LOCALLY ORIENTED ACHIEVEMENT TESTS IN CHEMISTRY.
SCHMITT, J.A. AND OTHERS
EDRS PRICE MF-$0.25 HC-$0.44 11P.
PUB DATE 66
DESCRIPTORS- *ACHIEVEMENT TESTS, *CHEMISTRY, *COGNITIVE DEVELOPMENT, *SECONDARY SCHOOL SCIENCE, *STUDENT EVALUATION, CHEMISTRY REGENTS EXAMINATION, EVALUATION, NEW YORK, TEST CONSTRUCTION.

ED 010 994
A STUDY OF SMALL GROUP DYNAMICS AND PRODUCTIVITY IN THE BSCS LABORATORY BLOCK PROGRAM.
HURD, PAUL DEHART ROWE, MARY BUDD
EDRS PRICE MF-$0.25 HC-$0.44 11P.
PUB DATE 66
DESCRIPTORS- *BIOLOGY, *GROUP DYNAMICS, *SECONDARY SCHOOL SCIENCE, *SMALL GROUP INSTRUCTION, ACADEMIC ACHIEVEMENT, BIOLOGICAL SCIENCES CURRICULUM STUDY, BIOLOGICAL SCIENCES CURRICULUM STUDY LABORATORY BLOCKS.

ED 010 995
INQUIRY TRAINING AND PROBLEM SOLVING IN ELEMENTARY SCHOOL CHILDREN.
BUTTS, DAVID P. JONES, HOWARD L.
EDRS PRICE MF-$0.25 HC-$0.48 12P.
PUB DATE 66

DESCRIPTORS- *CONCEPT FORMATION, *ELEMENTARY SCHOOL SCIENCE, *INSTRUCTION, *PHYSICAL SCIENCES, *PROBLEM SOLVING, COGNITIVE DEVELOPMENT, QUESTIONING TECHNIQUES.

ED 010 996
RIGIDITY IN CHILDREN'S PROBLEM SOLVING.
CUNNINGHAM, JOHN D.
EDRS PRICE MF-$0.25 HC-$0.68 17P.
PUB DATE APR. 66
DESCRIPTORS- *COGNITIVE DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *MENTAL RIGIDITY, NATIONAL ASSOCIATION FOR RESEARCH IN SCIENCE TEACHING, SCIENCE CURRICULUM IMPROVEMENT STUDY.

ED 010 997
BIBLIOGRAPHY OF SCIENCE COURSES OF STUDY AND TEXTBOOKS FOR GRADES 7-12.
NATIONAL SCIENCE TEACHERS ASSN., WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$1.80 45P.
PUB DATE 66
DESCRIPTORS- *BIBLIOGRAPHIES, *COURSES, *SECONDARY SCHOOL SCIENCE, *TEXTBOOKS, BIOLOGY, CHEMISTRY, DISTRICT OF COLUMBIA, GENERAL SCIENCE, NATIONAL EDUCATION ASSOCIATION, NATIONAL SCIENCE TEACHERS ASSOCIATION, NATURAL SCIENCES, PHYSICAL SCIENCES, PHYSICS.

ED 010 998
CONCEPT DEVELOPMENT MATERIALS FOR GIFTED ELEMENTARY PUPILS-FINAL REPORT OF FIELD TESTING.
SANDS, THEODORE AND OTHERS
ILLINOIS STATE UNIV., NORMAL.
EDRS PRICE MF-$0.25 HC-$2.00 50P.
PUB DATE 66
DESCRIPTORS- *ABLE STUDENTS, *CONCEPT FORMATION, *ELEMENTARY SCHOOL SCIENCE, CURRICULUM DEVELOPMENT, GRADE PLACEMENT, INDEPENDENT STUDY, READING ABILITY, RESEARCH REPORTS.

ED 010 999
SCIENCE EDUCATION IN THE JUNIOR COLLEGE, PROBLEMS AND PRACTICES.
EISS, ALBERT F.
NATIONAL SCIENCE TEACHERS ASSN., WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$2.52 63P.
PUB DATE 66
DESCRIPTORS- *COLLEGE SCIENCE, *CONFERENCES, *GENERAL EDUCATION SCIENCE, *SCIENCE EDUCATION, *SCIENCE INSTRUCTION, *VOCATIONAL EDUCATION, BIOLOGY, COMMISSION ON THE EDUCATION OF TEACHERS OF SCIENCE, DISTRICT OF COLUMBIA, JUNIOR COLLEGES, NATIONAL SCIENCE TEACHERS ASSOCIATION, PHYSICAL SCIENCES, REPORTS, SPACE SCIENCE, TEACHER RESOURCE MATERIALS.

ED 011 000
THEORY INTO ACTION . . . IN SCIENCE CURRICULUM DEVELOPMENT.
NATIONAL SCIENCE TEACHERS ASSN., WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$2.08 52P.
PUB DATE 64
DESCRIPTORS- *CONCEPTUAL SCHEMES, *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, SCIENTIFIC LITERACY, *SCIENTIFIC METHODOLOGY, *SECONDARY SCHOOL SCIENCE, CONCEPT FORMATION, DISTRICT OF COLUMBIA, TEACHING METHODS.

ED 011 001
GUIDELINES FOR DEVELOPMENT OF PROGRAMS IN SCIENCE INSTRUCTION, REPORT OF A STUDY, MAKING SPECIFIC REFERENCE TO THE TEACHING FUNCTION OF THE LABORATORY IN SECONDARY SCHOOL SCIENCE PROGRAM.
NATIONAL ACADEMY OF SCIENCES- NATIONAL RES. COUNCIL.
EDRS PRICE MF-$0.50 HC-$3.16 79P.
PUB DATE MAY 63
DESCRIPTORS- *CURRICULUM DEVELOPMENT, *LABORATORY ACTIVITIES, *LEARNING THEORIES, *SECONDARY SCHOOL SCIENCE, *TEACHER EDUCATION, BIOLOGICAL SCIENCES CURRICULUM STUDY (BSCS), BIOLOGY, CHEMICAL BOND APPROACH (CBA), CHEMICAL EDUCATION MATERIALS STUDY (CHEMS), CHEMISTRY, DISTRICT OF COLUMBIA, FILMS, PHYSICAL SCIENCE STUDY COMMITTEE (PSSC), PHYSICS, SCIENCE FACILITIES.

ED 011 002
TEACHING HIGH SCHOOL BIOLOGY-A GUIDE TO WORKING WITH POTENTIAL BIOLOGISTS.
BRANDWEIN, PAUL F. AND OTHERS
AMERICAN INST. OF BIOLOGICAL SCIENCES.
EDRS PRICE MF-$0.50 HC-$5.08 127P.
PUB DATE 62
DESCRIPTORS- *ABLE STUDENTS, *BIOLOGY, *SECONDARY SCHOOL SCIENCE, *STUDENT RESEARCH, *TEACHING METHODS, BIBLIOGRAPHIES, DISTRICT OF COLUMBIA, NATURAL SCIENCES, STUDENT PROJECTS, TEACHING TECHNIQUES.

ED 011 064
DIFFERENCES IN AIMS OF HIGH SCHOOL AND COLLEGE TEACHERS OF CHEMISTRY.
D'AGOSTINO, BROTHER C. JOSEPH
NEW YORK UNIV., N.Y., SCH. OF EDUCATION.
EDRS PRICE MF-$1.00 HC-$8.44 211P.
PUB DATE 66
DESCRIPTORS- *CHEMISTRY TEACHERS, *COLLEGE STUDENTS, *COLLEGE TEACHERS, *COMMUNICATION PROBLEMS, *SECONDARY SCHOOL TEACHERS, FACTOR ANALYSIS, NEW YORK CITY, QUESTIONNAIRES.

ED 011 155
LABORATORY METHODS IN PHYSICS FOR THE BLIND,
HENDERSON, DAVID RAY
PITTSBURGH UNIV., PA.
EDRS PRICE MF-$0.50 HC-$3.08 77P.
PUB DATE 65

DESCRIPTORS- *BLIND, *LABORATORIES, *PHYSICS INSTRUCTION, *TACTILE ADAPTATION, PHYSICS CURRICULUM, PITTSBURGH, RAISED LINE DRAWINGS, SENSORY AIDS.

ED 011 212
CURRICULUM GUIDE IN CONSERVATION EDUCATION.
HERRINGTON, EUGENE H. ROBBINS, LARRY
COLORADO STATE DEPT. OF EDUCATION, COLORADO STATE DEPT OF GAME, FISH AND PARKS, DENVER
EDRS PRICE MF-$0.50 HC-$3.48 87P.
PUB DATE APR. 64
DESCRIPTORS- *CLASS ACTIVITIES, *CONSERVATION EDUCATION, *CURRICULUM GUIDES, *GENERAL SCIENCE, *NATURAL RESOURCES, AGRICULTURAL TRENDS, BIOLOGY, DEMONSTRATION PROJECTS, DENVER, HUMAN RESOURCES, INTERMEDIATE GRADES, JUNIOR HIGH SCHOOLS, LAND USE, PRIMARY GRADES, WATER RESOURCES.

ED 011 232
BACKGROUND FACTORS AND SUCCESS IN COLLEGE
EDRS PRICE MF-$0.25 HC-$0.36 9P.
PUB DATE 66
DESCRIPTORS- *ACADEMIC ACHIEVEMENT, COLLEGE SCIENCE, STUDENT CHARACTERISTICS, ACHIEVEMENT, PHYSICAL SCIENCE STUDY COMMITTEE., *SECONDARY SCHOOL SCIENCE, *PHYSICS

ED 011 233
SCIENCE ACHIEVEMENT AS IT RELATES TO SCIENCE CURRICULA AND PROGRAMS AT THE SIXTH GRADE LEVEL IN MONTANA PUBLIC SCHOOLS.
SWAN, MALCOLM D.
EDRS PRICE MF-$0.25 HC-$0.60 15P.
PUB DATE JUN 66
DESCRIPTORS- *ACADEMIC ACHIEVEMENT, *ELEMENTARY SCHOOL SCIENCE, *EVALUATION, *GRADE 6, *LEARNING, *PROGRAM EVALUATION, CURRICULUM DEVELOPMENT, MONTANA.

ED 011 234
ASSESSING THE PROGRESS OF EDUCATION IN SCIENCE.
TYLER, RALPH W.
EDRS PRICE MF$0.25 HC-$0.32 8P.
PUB DATE SEP 66
DESCRIPTORS- *EDUCATIONAL OBJECTIVES, *EVALUATION, *SCIENCE EDUCATION, *SCIENTIFIC LITERACY, ADULT EDUCATION, ATTITUDES, COLLEGE SCIENCE, ELEMENTARY SCHOOL SCIENCE, SCIENTIFIC ATTITUDES, SECONDARY SCHOOL SCIENCE.

ED 011 235
THREE EMPHASES IN TEACHING BIOLOGY-A STATISTICAL COMPARISON OF RESULTS.
YAGER, ROBERT E. WICK, JOHN W.
EDRS PRICE MF-$0.25 HC-$0.36 9P.
PUB DATE MAR 66
DESCRIPTORS- *BIOLOGY, *COGNITIVE DEVELOPMENT, *CRITICAL THINKING, *SECONDARY SCHOOL SCIENCE, *TEACHING METHODS, BIOLOGICAL SCIENCES CURRICULUM STUDY, GRADE 8, INSTRUCTION, TEAM TEACHING.

ED 011 236
THE RELATIONSHIP OF THREE FACTORS IN PRINTED MATERIALS TO STUDENT ACHIEVEMENT.
EATON, EDWARD J.
EDRS PRICE MF-$0.25 HC-$0.52 13P.
PUB DATE MAR 66
DESCRIPTORS- *ACADEMIC ACHIEVEMENT, *ASTRONOMY, *CURRICULUM, *ELEMENTARY SCHOOL SCIENCE, *STUDENT ATTITUDES, ELEMENTARY SCHOOL SCIENCE PROJECT, EVALUATION, FLORIDA, GRADE 6, INSTRUCTIONAL MATERIALS.

ED 011 237
BIBLIOGRAPHY OF SCIENCE COURSES OF STUDY AND TEXTBOOKS GRADES 1-9, 1966 EDITION, NATIONAL SCIENCE TEACHERS ASSN., WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$1.72 43P.
PUB DATE 66
DESCRIPTORS- *ELEMENTARY SCHOOL SCIENCE, *SCIENCE COURSES, *SECONDARY SCHOOL SCIENCE, *TEXTBOOKS, BIBLIOGRAPHIES, BIOLOGY, CHEMISTRY, COMPUTER SCIENCE, DISTRICT OF COLUMBIA, GENERAL SCIENCE, NATIONAL EDUCATION ASSOCIATION, NATIONAL SCIENCE TEACHERS ASSOCIATION, PHYSICAL SCIENCES, PHYSICS, PROGRAMED INSTRUCTION, REFERENCE BOOKS.

ED 011 238
HOW WELL IS SSTP ACHIEVING ITS PURPOSES.
EDGERTON, HAROLD A.
NATIONAL SCIENCE FOUNDATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$2.84 71P.
PUB DATE APR 65
DESCRIPTORS- *ABLE STUDENTS, *PROGRAM EVALUATION, *SECONDARY SCHOOL SCIENCE, *STUDENT INTERESTS, COLLEGE SCIENCE, DISTRICT OF COLUMBIA, NATIONAL SCIENCE FOUNDATION, SCIENCE CAREERS, STUDENT CHARACTERISTICS, SUMMER SCIENCE PROGRAMS, SUMMER SCIENCE TRAINING PROGRAM.

ED 011 239
THE DIRECT TEACHING OF CRITICAL THINKING IN GRADES FOUR THROUGH SIX.
MASON, JOHN M.
EDRS PRICE MF-$0.25 HC-$0.56 14P.
PUB DATE DEC 63
DESCRIPTORS- *COGNITIVE DEVELOPMENT, *COGNITIVE PROCESSES, *CRITICAL THINKING, *ELEMENTARY SCHOOL SCIENCE, *PROBLEM SOLVING, DEARBORN, EAST LANSING, FLINT, GRADE 4, GRADE 5, GRADE 6, GROSSE POINTE, LANSING, MICHIGAN, PONTIAC.

ED 011 240
IDENTIFYING THE "SLOW LEARNER" IN BSCS HIGH SCHOOL BIOLOGY.
GROBMAN, HULDA.
EDRS PRICE MF-$0.25 HC-$0.52 13P.
PUB DATE MAR 65
DESCRIPTORS- *ACADEMIC ACHIEVEMENT, *BIOLOGY, *PROGRAM EVALUATION, *SECONDARY SCHOOL SCIENCE, *SLOW LEARNERS, BSCS BIOLOGY SPECIAL MATERIALS, BSCS GREEN VERSION, BSCS YELLOW VERSION, EVALUATION, GRADE 10, INSTRUCTION, INSTRUCTIONAL MATERIALS, SCIENCE COURSE IMPROVEMENT PROJECT.

ED 011 241
SELF-EVALUATION BY PHYSICAL SCIENCE INSTRUCTORS.
SIMPSON, RAY H.
EDRS PRICE MF-$0.25 HC-$0.44 11P.
PUB DATE
DESCRIPTORS- *COLLEGE SCIENCE, *EVALUATION, *PHYSICAL SCIENCES, *SELF EVALUATION, TEACHER IMPROVEMENT, EVALUATION METHODS, EVALUATION TECHNIQUES, TEACHER RATING.

ED 011 311
BIBLIOGRAPHY ON ACHIEVEMENT. SUPPLEMENT 1.
HARVARD UNIV., CAMBRIDGE, MASS.
EDRS PRICE MF $0.25 HC-$0.36 9P.
PUB DATE OCT 66
DESCRIPTORS- *ACADEMIC ACHIEVEMENT *ACHIEVEMENT, *BIBLIOGRAPHIES, *PROBABILITY, *UNDERACHIEVERS, CAMBRIDGE.

ED 011 476
OUR DESERT FRIENDS.
CROTZER, EMMETT H. AND OTHERS
NEVADA STATE DEPT. OF EDUCATION, CARSON CITY.
EDRS PRICE MF-$0.50 HC-$3.28 82P.
PUB DATE 64
DESCRIPTORS- *AMERICAN INDIANS, *BOTANY, *EDUCATIONAL RESOURCES, *ELEMENTARY GRADES, *FOLK CULTURE, BIOLOGY INSTRUCTION, CARSON CITY, CARSON INDIAN AGENCY, INSTRUCTIONAL MATERIALS, NEVADA INDIAN AGENCY.

ED 011 505
EIGHTH-GRADE EARTH SCIENCE, TEXTBOOK READABILITY AND OTHER FACTORS WHICH COULD INFLUENCE THE SUCCESS OF THE EIGHTH-GRADE EARTH SCIENCE COURSE IN THE TEXAS PUBLIC SCHOOLS.
KLINE, LOREN E., JR.
EAST TEXAS STATE UNIV., COMMERCE
EDRS PRICE MF-$1.25 HC-$11.16 279P.
PUB DATE AUG 66
DESCRIPTORS- *EARTH SCIENCE, *EVALUATION, *GRADE 8, *SECONDARY SCHOOL SCIENCE, COMMERCE, EARTH SCIENCE CURRICULUM PROJECT, READABILITY, SCIENCE EQUIPMENT, SCIENCE FACILITIES, TEACHER EDUCATION, TEXAS EDUCATION AGENCY.

ED 011 506
BSCS BIOLOGY-IMPLEMENTATION IN THE SCHOOLS.
GROBMAN, ARNOLD B. AND OTHERS
BIOLOGICAL SCIENCES CURRICULUM STUDY, BOULDER, COLO.
EDRS PRICE MF-$0.50 HC-$4.16 104P.
PUB DATE JUN 64
DESCRIPTORS - *BIOLOGY, *CURRICULUM DEVELOPMENT, *SCIENCE EQUIPMENT, *SCIENCE FACILITIES, *SECONDARY SCHOOL SCIENCE, BIOLOGICAL SCIENCES CURRICULUM STUDY (BSCS), BOULDER, NATIONAL DEFENSE EDUCATION ACT, SCIENCE COURSE IMPROVEMENT PROJECT, SCIENCE MATERIALS.

ED 011 507
EDUCATION AND THE SPIRIT OF SCIENCE.
COREY, ARTHUR F. AND OTHERS
NATIONAL EDUCATION ASSN.,
WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$1.36 34P.
PUB DATE 66
DESCRIPTORS- *EDUCATIONAL OBJECTIVES, *SCIENCE EDUCATION, DISTRICT OF COLUMBIA, EDUCATIONAL POLICIES COMMISSION, NATIONAL DEFENSE EDUCATION ACT, SOCIO ECONOMIC INFLUENCES.

ED 011 512
IMPROVING SCIENCE EDUCATION IN THE UNITED STATES.
GATEOOD, CLAUDE W. OBOURN, ELLSWORTH S.
EDRS PRICE MF-$0.25 HC-$1.96 49P.
PUB DATE DEC 63
DESCRIPTORS- *CURRICULUM DEVELOPMENT, *EQUIPMENT MANUFACTURERS, *FOUNDATION PROGRAMS, *SCIENCE EDUCATION HISTORY, *TEACHER EDUCATION, BIOLOGICAL SCIENCES CURRICULUM STUDY, CEYLON, CHEMICAL BOND APPROACH, COURSE CONTENT, EDUCATIONAL OBJECTIVES, INSERVICE TEACHER EDUCATION, INSTITUTES (TRAINING PROGRAMS), NATIONAL SCIENCE FOUNDATION, PHYSICAL SCIENCE STUDY COMMITTEE, SCIENCE EQUIPMENT, SCIENCE TEACHING CENTERS, SECONDARY SCHOOL SCIENCE.

ED 011 514
SCIENCE TEACHING IN THE PUBLIC JUNIOR HIGH SCHOOL.
ROGERS, LOLA ERIKSEN
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC NOT AVAILABLE, 70P.
PUB DATE 67
DESCRIPTORS- *SCHOOL ORGANIZATION, *SCIENCE TEACHERS, *SECONDARY SCHOOL SCIENCE, *STUDENT ENROLLMENT, DISTRICT OF COLUMBIA, GRADE 7, GRADE 8, GRADE 9, INSERVICE TEACHER EDUCATION, INSTRUCTIONAL MATERIALS, JUNIOR HIGH SCHOOLS, NDEA TITLE III, SCHOOL STATISTICS, SCIENCE CLUBS, SCIENCE CONSULTANTS, SCIENCE FAIRS.

ED 011 515
PLANNING FOR EXCELLENCE IN HIGH SCHOOL SCIENCE.
STOLLBERG, ROBERT AND OTHERS
NATIONAL SCIENCE TEACHERS ASSN., WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$3.04 76P.
PUB DATE 61
DESCRIPTORS- *CURRICULUM DEVELOPMENT, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, CONFERENCE REPORTS, DISTRICT OF COLUMBIA, EDUCATIONAL OBJECTIVES, EFFECTIVE TEACHING, SCIENCE AND SOCIETY, SCIENCE SUPERVISION, TEACHER EDUCATION.

ED 011 516
SUPERVISION FOR QUALITY EDUCATION IN SCIENCE, REPORT ON A CONFERENCE ARRANGED BY THE SPECIALISTS FOR SECONDARY SCIENCE (JUNE 25-29, 1962).
ALEXANDER, UHLMAN S.
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.75 HC NOT AVAILABLE, 178P.
PUB DATE 63
DESCRIPTORS- *CONFERENCE REPORTS, *NATURAL SCIENCE, *SCIENCE EDUCATION, *SCIENCE SUPERVISION, SUPERVISION, CURRICULUM DEVELOPMENT, DISTRICT OF COLUMBIA, EDUCATIONAL OBJECTIVES, SECONDARY SCHOOL SCIENCE.

ED 011 610
A CRITICAL EXAMINATION OF THE DEVELOPMENT OF SCIENCE CONCENTRATIONS IN THE TEACHER PREPARATION PROGRAM FOR THE PROSPECTIVE ELEMENTARY SCHOOL TEACHER AT THE UNIVERSITY OF TEXAS.
EATON, EDWARD J.
EDRS PRICE MF-$0.25 HC-$0.72 18P.
PUB DATE 66
DESCRIPTORS- *COLLEGE STUDENTS, *COUNSELING EFFECTIVENESS, *ELEMENTARY EDUCATION, *SCIENCE CAREERS, *STUDENT INTERESTS, AUSTIN, BIOLOGY, DATA COLLECTION, GEOLOGY, PROGRAM IMPROVEMENT, STATISTICAL ANALYSIS, STUDENT CHARACTERISTICS, TEACHER EDUCATION.

ED 011 781
THE NEED TO ESTABLISH A MARINE SCIENCES TECHNOLOGY PROGRAM AT SHORELINE COMMUNITY COLLEGE.
TEEL, WARD AND OTHERS
SHORELINE COMMUNITY COLL., SEATTLE, WASH.
EDRS PRICE MF-$0.25 HC-$1.56 39P.
PUB DATE 66
DESCRIPTORS- *BIOLOGICAL SCIENCES, *BIOLOGY INSTRUCTION, *JUNIOR COLLEGES, *OCEANOLOGY, *TECHNICAL EDUCATION, CAREER OPPORTUNITIES, COMMUNITY SURVEYS, CURRICULUM GUIDES, CURRICULUM RESEARCH, INDUSTRIAL EDUCATION, JOB TRAINING, MARINE BIOLOGY, OCCUPATIONAL INFORMATION, OCCUPATIONAL SURVEYS, SEATTLE, VOCATIONAL EDUCATION.

ED 011 807
OUTDOOR EDUCATION-A METHOD OF TEACHING.
ISENBERG, ROBERT M.
EDRS PRICE MF-$0.25 HC-$0.32 8P.
PUB DATE 67
DESCRIPTORS- *CAMPING, *INSTRUCTIONAL INNOVATION, *LEARNING ACTIVITIES, *LEARNING EXPERIENCE, *OUTDOOR EDUCATION, HEADSTART PROGRAM, LEARNING MOTIVATION, LOS ANGELES, TEACHING METHODS.

ED 011 834
CORE STUDIES FOR UNDERGRADUATE MAJORS-A CONFERENCE REPORT.
HALL, THOMAS AND OTHERS
EDRS PRICE MF-$0.25 HC-$0.40 10P.
PUB DATE 64
DESCRIPTORS- *BIOLOGY, *COLLEGE SCIENCE, *CORE COURSES, *COURSE CONTENT, *CURRICULUM DEVELOPMENT, BERKELEY, CONFERENCES, ST. LOUIS, TEACHER EDUCATION.

ED 011 835
RESEARCH IN THE TEACHING OF SCIENCE JULY 1957 TO JULY 1959
OSBOURN, ELLSWORTH S. AND OTHERS
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$3.76 94P.
PUB DATE 62
DESCRIPTORS- *COLLEGE SCIENCE, *EDUCATIONAL RESEARCH, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, CURRICULUM, DISTRICT OF COLUMBIA, EDUCATIONAL OBJECTIVES, EDUCATIONAL PHILOSOPHY, LEARNING, NATIONAL ASSOCIATION FOR RESEARCH IN SCIENCE TEACHING, EQUIPMENT, SCIENCE FACILITIES, TEACHER EDUCATION.

ED 011 836
RESEARCH STUDIES IN COLLEGE SCIENCE FROM JULY 1963 TO JULY 1964.
LEE, ADDISON E. AND OTHERS
TEXAS UNIVERSITY, SCIENCE EDUCATION CENTER, AUSTIN.
EDRS PRICE MF-$0.25 HC$0.96 24P.
PUB DATE 65
DESCRIPTORS- *COLLEGE SCIENCE, *CURRICULUM, *TEACHER EDUCATION, AUSTIN, EDUCATIONAL OBJECTIVES, EDUCATIONAL PHILOSOPHY, EDUCATIONAL RESEARCH DESIGN, EVALUATION, LEARNING, LEARNING THEORIES, SCIENCE EQUIPMENT, SCIENCE FACILITIES, TEACHING METHODS.

ED 011 837
SOME STATISTICS OF U.S. SECONDARY SCHOOLS, 1964-1965.
NSTA STAFF.
EDRS PRICE MF-$0.25 HC-$0.20 5P.
PUB DATE SEP 65
DESCRIPTORS- *SCHOOL ORGANIZATION, *SCIENCE EDUCATION, *SECONDARY SCHOOLS, *TEACHER CHARACTERISTICS, *TEACHER PLACEMENT, MATHEMATICS EDUCATION, NATIONAL ASSOCIATION OF

SECONDARY SCHOOL PRINCIPALS, NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS, NATIONAL SCIENCE FOUNDATION, NATIONAL SCIENCE TEACHERS ASSOCIATION, PRIVATE SCHOOLS, PUBLIC SCHOOLS, SECONDARY SCHOOL SCIENCE, STUDENT ENROLLMENT, TEACHING LOAD.

ED 011 839
A HALF CENTURY OF TEACHING SCIENCE AND MATHEMATICS.
ISENBARGER, KATHARINE U. AND OTHERS
CENTRAL ASSOCIATION OF SCIENCE AND MATH. TEACHERS INC.
EDRS PRICE MF-$1.00 HC-$8.28 207P.
PUB DATE 50
DESCRIPTORS- *CURRICULUM, *EDUCATIONAL OBJECTIVES, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, *TEACHER EDUCATION, BIOLOGY, CENTRAL ASSOCIATION OF SCIENCE AND MATHEMATICS TEACHERS, CHEMISTRY, COURSE CONTENT, COURSE DESCRIPTORS, GENERAL SCIENCE, MATHEMATICS EDUCATION, PHYSICAL SCIENCES, PHYSICS, TEACHING METHODS.

ED 011 840
A DIRECTORY OF INFORMATION RESOURCES IN THE UNITED STATES. PHYSICAL SCIENCES, BIOLOGICAL SCIENCES, ENGINEERING.
LIBRARY OF CONGRESS, WASHINGTON, D.C.
EDRS PRICE MF-$1.50 HC-$14.32 359P.
PUB DATE JAN 65
DESCRIPTORS- *BIOLOGICAL SCIENCES, *DIRECTORIES, *ENGINEERING, *PHYSICAL SCIENCES, DISTRICT OF COLUMBIA, INFORMATION DISSEMINATION, NATIONAL REFERRAL CENTER FOR SCIENCE AND TECHNOLOGY, SCIENCES, TECHNOLOGICAL ADVANCEMENT.

ED 011 841
EVALUATION IN ELEMENTARY SCHOOL SCIENCE.
TANNENBAUM, HAROLD E. AND OTHERS
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$3.32 83P.
PUB DATE 64
DESCRIPTORS- *CURRICULUM EVALUATION, *EDUCATIONAL OBJECTIVES, *ELEMENTARY SCHOOL SCIENCE, *EVALUATION, DISTRICT OF COLUMBIA, EFFECTIVE TEACHING, INSERVICE TEACHER EDUCATION, INSTRUCTION, SCIENCE TESTS, SELF EVALUATION, STUDENT EVALUATION, SUPERVISION, TEACHER EVALUATION, TEST CONSTRUCTION, TEXTBOOK EVALUATION, U.S. OFFICE OF EDUCATION.

ED 011 842
EDUCATIONAL RESEARCH RELATED TO SCIENCE INSTRUCTION FOR THE ELEMENTARY AND JUNIOR HIGH SCHOOL - A REVIEW AND COMMENTARY.
SMITH, HERBERT A.
EDRS PRICE MF-$0.25 HC-$0.08 27P.
PUB DATE SEP 63
DESCRIPTORS- *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, BIBLIOGRAPHIES, COMMISSION ON SCIENCE EDUCATION, COURSE CONTENT, EDUCATIONAL OBJECTIVES, INSTRUCTION, RESEARCH METHODOLOGY, STUDENT EVALUATION, TEACHER EDUCATION, TEACHING METHODS.

ED 011 843
SCIENTIFIC LITERACY IN THE SIXTIES.
KOELSCHE, CHARLES L., MORGAN, ASHLEY G.
GEORGIA UNIVERSITY, ATHENS.
EDRS PRICE MF-$0.25 HC-$1.80 45P.
PUB DATE SEP 64
DESCRIPTORS- *LITERACY, *SCIENTIFIC LITERACY, *SCIENTIFIC PRINCIPLES, ATHENS, BIOLOGICAL SCIENCES CURRICULUM STUDY, CHEMICAL BOND APPROACH, CHEMICAL EDUCATION MATERIALS STUDY, CONCEPT FORMATION, GENERAL EDUCATION, PHYSICAL SCIENCE STUDY COMMITTEE, READING.

ED 011 844
RESEARCH IN THE TEACHING OF SCIENCE,
JOHNSON, LLOYD K. AND OTHERS
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.75 HC-$6.40 160P.
PUB DATE 65
DESCRIPTORS- *COLLEGE SCIENCE, *EDUCATIONAL RESEARCH, *ELEMENTARY SCHOOL SCIENCE, *SECONDARY SCHOOL SCIENCE, CURRICULUM, DISTRICT OF COLUMBIA, EDUCATIONAL OBJECTIVES, LEARNING, NATIONAL ASSOCIATION FOR RESEARCH IN SCIENCE TEACHING, RESEARCH REVIEWS, SCIENCE INSTRUCTION, TEACHER EDUCATION, TEACHING METHODS.

ED 011 845
SCIENCE EDUCATION RESEARCH STUDIES - 1950.
JOHNSON, PHILIP G.
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$1.32 33P.
PUB DATE 51
DESCRIPTORS- *COLLEGE SCIENCE, *EDUCATIONAL RESEARCH, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, DISTRICT OF COLUMBIA, RESEARCH REVIEWS (PUBLICATIONS), SCIENCE INSTRUCTION.

ED 011 846
SCIENCE EDUCATION RESEARCH STUDIES-1951.
JOHNSON, PHILIP G.
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$1.32 33P.
PUB DATE FEB 52
DESCRIPTORS- *COLLEGE SCIENCE, *EDUCATIONAL RESEARCH, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, DISTRICT OF COLUMBIA, RESEARCH, RESEARCH REVIEWS (PUBLICATIONS), SCIENCE INSTRUCTION.

ED 011 847
SCIENCE EDUCATION RESEARCH STUDIES-1952.
JOHNSON, PHILIP G.
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$2.36 56P.
PUB DATE JUN 53

DESCRIPTORS- *COLLEGE SCIENCE, EDUCATIONAL RESEARCH, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, DISTRICT OF COLUMBIA, RESEARCH, RESEARCH REVIEWS (PUBLICATIONS), SCIENCE INSTRUCTION.

ED 011 848
SCIENCE EDUCATION RESEARCH STUDIES-1953.
BROWN, KENNETH E. BLACKWOOD, PAUL E.
EDRS PRICE MF-$0.25 HC-$1.40 35P.
PUB DATE 54

DESCRIPTORS- *COLLEGE SCIENCE, *EDUCATIONAL RESEARCH, *ELEMENTARY SCHOOL SCIENCES, *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, RESEARCH, RESEARCH REVIEWS (PUBLICATIONS), SCIENCE INSTRUCTION.

ED 011 852
IMPROVING SCIENCE EDUCATION. REPORT OF A NATIONAL CONFERENCE OF SCIENCE SUPERVISORS (JUNE 14-17, 1966).
PILTZ, ALBERT STIEDLE, WALTER
TEXAS EDUCATION AGENCY, AUSTIN
EDRS PRICE MF-$0.50 HC-$4.00 102P.
PUB DATE JUN 66

DESCRIPTORS- *CURRICULUM, *EDUCATIONAL OBJECTIVES, *FEDERAL LEGISLATION, *SCIENCE EDUCATION, *SCIENCE INSTRUCTION, *SCIENCE SUPERVISION, AUSTIN, DISADVANTAGED YOUTH, LABORATORY SAFETY, LABORATORY TECHNIQUES, LEARNING THEORIES, OUTDOOR EDUCATION, SCIENCE EQUIPMENT, SCIENCE FACILITIES, TEACHER EDUCATION.

ED 011 853
NATIONAL DEFENSE EDUCATION ACT OF 1958, AS AMENDED, TITLE III, ANNUAL REPORT-FISCAL YEAR 1966. PART III, NARRATIVE REPORT, SCIENCE.
PILTZ, ALBERT STEIDLE, WALTER
OFFICE OF EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$4.00 100P.
PUB DATE 66

DESCRIPTORS- *ANNUAL REPORTS, *CURRICULUM, *ELEMENTARY SCHOOL SCIENCE, *FEDERAL LEGISLATION, *SECONDARY SCHOOL SCIENCE, DISTRICT OF COLUMBIA, INSERVICE TEACHER EDUCATION, NDEA TITLE III, PRESERVICE EDUCATION, SCIENCE EQUIPMENT, SCIENCE FACILITIES, SCIENCE MATERIALS, SCIENCE SUPERVISION, TEACHER EDUCATION.

ED 011 854
GUIDELINES FOR PREPARATION PROGRAMS OF TEACHERS OF SECONDARY SCHOOL SCIENCE AND MATHEMATICS.
NATIONAL ASSN. OF STATE DIR. OF TEACH. EDUC. CERT. AMERICAN ASSN. FOR THE ADVANCEMENT OF SCIENCE.
EDRS PRICE MF-$0.25 HC-$1.64 41P.
PUB DATE SEP 61

DESCRIPTORS- *CERTIFICATION, *SECONDARY SCHOOL SCIENCE, *TEACHER EDUCATION PROGRAMS, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, CARNEGIE CORPORATION OF NEW YORK, COLLEGE SCIENCE, CONFERENCES, PRESERVICE EDUCATION, TEACHER EDUCATION.

ED 011 856
A STUDY OF THE ATTRIBUTES OF APPLICANTS TO NATIONAL SCIENCE FOUNDATION SUMMER INSTITUTES IN 1964.
BERGER, RAYMOND M.
PSYCHOMETRICS CONSULTANTS, LOS ANGELES, CALIFORNIA.
EDRS PRICE MF-$1.50 HC-$14.60 356P.
PUB DATE AUG 65

DESCRIPTORS- *COLLEGE SCIENCE, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE INSTITUTES, *SCIENCE TEACHERS, *SECONDARY SCHOOL SCIENCE, *TEACHER CHARACTERISTICS, *TEACHER EDUCATION, BIOLOGY, CHEMISTRY, CORPORATION FOR ECONOMIC AND INDUSTRIAL RESEARCH, EARTH SCIENCE, LOS ANGELES, MATHEMATICS TEACHERS, NATIONAL SCIENCE FOUNDATION, PHYSICS, SCIENCE RESEARCH ASSOCIATES, SUMMER INSTITUTES.

ED 011 857
IMPACTS OF THE NATIONAL SCIENCE FOUNDATIONS SUMMER SCIENCE PROGRAM FOR HIGH ABILITY SECONDARY SCHOOL STUDENTS.
EDGERTON, HAROLD A., RICHARDSON, BELLOWS HENRY AND CO. INC., NEW YORK.
EDRS PRICE MF-$0.75 HC-$5.88 147P.
PUB DATE 62

DESCRIPTORS- *ABLE STUDENTS, *ACADEMIC ACHIEVEMENT, *EDUCATIONAL PROGRAMS, *SECONDARY SCHOOL SCIENCE, *SECONDARY SCHOOL STUDENTS, *STUDENT ATTITUDES, NATIONAL SCIENCE FOUNDATION, NEW YORK CITY, SCIENCE CAREERS, STUDENT INTERESTS.

ED 011 860
COURSE AND CURRICULUM IMPROVEMENT PROJECTS-MATHEMATICS, SCIENCE, ENGINEERING.
FONTAINE, THOMAS D.
NATIONAL SCIENCE FOUNDATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.50 HC-$5.00 125P.
PUB DATE SEP 66

DESCRIPTORS- *COLLEGE SCIENCE, *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE COURSE IMPROVEMENT PROJECT, *SECONDARY SCHOOL SCIENCE, BIOLOGICAL SCIENCES CURRICULUM STUDY, BIOLOGY, CHEMICAL BOND APPROACH, CHEMISTRY, COLLEGE MATHEMATICS, EARTH SCIENCE, EARTH SCIENCE CURRICULUM PROJECT, ELEMENTARY SCHOOL MATHEMATICS, ENGINEERING, NATIONAL SCIENCE FOUNDATION, PHYSICS, PSYCHOLOGY, SECONDARY SCHOOL MATHEMATICS, SOCIAL SCIENCES.

ED 011 861
ACHIEVE LEARNING OBJECTIVES, PAPERS PREPARED ESPECIALLY FOR A SUMMER INSTITUTE ON EFFECTIVE TEACHING FOR YOUNG ENGINEERING TEACHERS (PENNSYLVANIA STATE UNIVERSITY, AUGUST 28 THROUGH SEPTEMBER 3, 1960).
LANCASTER, OTIS E.
PENNSYLVANIA STATE UNIVERSITY, UNIVERSITY PARK.
EDRS PRICE MF-$2.25 HC-$21.32 533P.
PUB DATE SEP 60
DESCRIPTORS- *COLLEGE SCIENCE, *CURRICULUM DEVELOPMENT, *ENGINEERING EDUCATION, *LEARNING THEORIES, *PAPERS, *SCIENCE EDUCATION, *TEACHING METHODS, AMERICAN SOCIETY OF ENGINEERING EDUCATION, AUDIOVISUAL AIDS, BIBLIOGRAPHIES, CONFERENCE REPORTS, EDUCATIONAL OBJECTIVES, EDUCATIONAL RESEARCH, EVALUATION, FORD FOUNDATION, TEACHER EDUCATION, THE ENGINEERS COUNCIL FOR PROFESSIONAL DEVELOPMENT.

ED 011 862
PROCEEDINGS ON THE CONFERENCE ON THE IMPACT OF COMPUTERS OF EDUCATION IN ENGINEERING DESIGN (CHICAGO, APRIL 21-23, 1966).
FENVES, STEVEN J. AND OTHERS
COMMISSION ON ENGINEERING EDUCATION, WASHINGTON, D.C.
EDRS PRICE MF-$0.75 HC-$7.20 180P.
PUB DATE 66
DESCRIPTORS- *CONFERENCE REPORTS, *CURRICULUM DEVELOPMENT, *ENGINEERING EDUCATION, *TECHNICAL EDUCATION, CHICAGO, COMPUTER ASSISTED INSTRUCTION, DISTRICT OF COLUMBIA, EDUCATIONAL TECHNOLOGY, INFORMATION RETRIEVAL, INSTRUCTION, NATIONAL SCIENCE FOUNDATION, SCIENCE EDUCATION.

ED 011 866
GUIDELINES AND SUGGESTED TITLE LIST FOR UNDERGRADUATE CHEMISTRY LIBRARIES, A REPORT OF A.C.C.C. PANEL MEETINGS ON GUIDELINES FOR BOOKLISTS AND LIBRARY DEVELOPMENT (WASHINGTON, D.C. FEBRUARY 1965).
LIPPINCOTT, W. T. AND OTHERS
ADVISORY COUNCIL ON COLLEGE CHEMISTRY.
EDRS PRICE MF-$0.25 HC-$1.96 49P.
PUB DATE APR 66
DESCRIPTORS- *BOOKLISTS, *CHEMISTRY, *COLLEGE SCIENCE, *TEXTBOOKS, ADVISORY COUNCIL ON COLLEGE CHEMISTRY (ACCC).

ED 011 867
TEACHING EARLY ADOLESCENTS TO THINK.
BAUGHMAN, M. DALE
JUNIOR HIGH SCHOOL ASSN. OF ILLINOIS, URBANA.
EDRS PRICE MF-$0.50 HC-$3.08 77P.
PUB DATE 64
DESCRIPTORS- *CREATIVE THINKING, *CRITICAL THINKING, *ENGLISH EDUCATION, *INQUIRY TRAINING, *PAPERS, *SECONDARY SCHOOL SCIENCE, *SOCIAL STUDIES, ART EDUCATION, BIBLIOGRAPHIES, COGNITIVE PROCESSES, INDUCTIVE METHODS, JUNIOR HIGH SCHOOL ASSOCIATION OF ILLINOIS, PROBLEM SOLVING, SPEECHES, STUDENT CHARACTERISTICS, TEACHING METHODS, URBANA.

ED 011 965
HIGH SCHOOL PHYSICS BY TELEVISION - THE HOUSTON AREA PROJECT.
STREVELL, WALLACE H.
HOUSTON UNIV., TEXAS, BUR OF EDUC, RES. AND SER.
EDRS PRICE MF-$0.25 HC-$1.60 40P.
PUB DATE SEP 60
DESCRIPTORS- *GROUPING (INSTRUCTIONAL PURPOSES), *INSTRUCTIONAL TECHNOLOGY, *PHYSICS INSTRUCTION, *PROGRAM EFFECTIVENESS, *TELEVISED INSTRUCTION, CLASS ORGANIZATION, CONVENTIONAL INSTRUCTION, HIGH SCHOOL STUDENTS, HOUSTON, NEGRO STUDENTS, OPEN CIRCUIT TELEVISION.

ED 012 106
TOWARDS BETTER CURRICULA THROUGH COMPUTER SELECTED SEQUENCING OF SUBJECT MATTER.
TAFT, MARTIN I. REISMAN, ARNOLD.
EDRS PRICE MF-$0.25 HC-$1.08 27P.
DESCRIPTORS- *COMPUTER ORIENTED PROGRAMS, *CURRICULUM PLANNING, *LEARNING THEORIES, *MATHEMATCAL MODELS, *SEQUENTIAL LEARNING, ALGORITHMS, REINFORCEMENT, SCHEDULING, SIMULATION, STUDENTS.

ED 012 233
RETHINKING SCIENCE EDUCATION, THE FIFTY-NINTH YEARBOOK OF THE NATIONAL SOCIETY FOR THE STUDY OF EDUCATION, PART I,
BARNARD, J. DARRELL
NATIONAL SOCIETY FOR THE STUDY OF EDUCATION, CHICAGO.
EDRS PRICE MF-$1.50 HC-$14.76 369P.
PUB DATE 60
DESCRIPTORS- *COLLEGE SCIENCE, *ELEMENTARY SCHOOL SCIENCE, *RESEARCH REVIEWS (PUBLICATIONS), *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, BIBLIOGRAPHIES, CHICAGO, CRITICAL THINKING, CURRICULUM, CURRICULUM DEVELOPMENT, EDUCATIONAL OBJECTIVES, GENERAL EDUCATION, INSTRUCTIONAL MATERIALS, LEARNING, SCIENCE EQUIPMENT, SCIENCE FACILITIES, SUPERVISION, TEACHER EDUCATION.

ED 012 234
GUIDELINES FOR THE DOCTORATE IN SCIENCE EDUCATION, A STATMENT BY THE ASSOCIATION FOR THE EDUCATION OF TEACHERS IN SCIENCE
RUTHERFORD, F. JAMES AND OTHERS
NATIONAL SCIENCE TEACHERS ASSN., WASHINGTON, D.C.
EDRS PRICE MF -$0.25 HC-$0.32 8P.
PUB DATE OCT 66

DESCRIPTORS- *COLLEGE SCIENCE *CURRICULUM DEVELOPMENT, *DOCTORAL DEGREES, *SCIENCE EDUCATION, *TEACHER EDUCATION, ASSOCIATION FOR THE EDUCATION OF TEACHERS IN SCIENCE, CURRICULUM, DISTRICT OF COLUMBIA, DOCTORAL PROGRAMS, GRADUATE STUDY.

ED 012 235
REVIEW OF RESEARCH STUDIES IN SCIENCE EDUCATION,
TAYLOR, WAYNE AND OTHERS
MICHIGAN STATE UNIV., EAST LANSING.
EDRS PRICE MF-$0.25 HC-$2.04 51P.
PUB DATE 66

DESCRIPTORS- *BIBLIOGRAPHIES, *EDUCATIONAL RESEARCH, *RESEARCH REVIEWS (PUBLICATIONS), *SCIENCE EDUCATION, *SECONDARY SCHOOL SCIENCE, ACADEMIC ACHIEVEMENT, ATTITUDES, BIOLOGY, CHEMISTRY, CURRICULUM, EARTH SCIENCE, EAST LANSING, EFFECTIVE TEACHING, EVALUATION, INSTRUCTION, INSTRUCTIONAL. MATERIALS, LEARNING, PHYSICAL SCIENCES, PHYSICS, SCIENCE FACILITIES, TEACHER EDUCATION, TEACHING METHODS.

ED 012 239
A REVIEW OF NEW SCIENCE CURRICULUM MATERIALS.
O'HEARN, GEORGE T.
WISCONSIN STATE DEPT. OF PUB. INSTR., MADISON
EDRS PRICE MF-$0.25 HC-$1.56 39P.
PUB DATE 66

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *SCIENCE COURSE IMPROVEMENT PROJECT, *SCIENCE EQUIPMENT, *SCIENCE MATERIALS, *SECONDARY SCHOOL SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, ASTRONOMY, BIBLIOGRAPHIES, BIOLOGICAL SCIENCES CURRICULUM STUDY, BIOLOGY, CHEMICAL BOND APPROACH, CHEMISTRY, EARTH SCIENCE, MADISON, MINNEMAST, PHYSICAL SCIENCES, PHYSICS.

ED 012 240
HIGHER EDUCATION AND THE DEMAND FOR SCIENTIFIC MANPOWER IN THE UNITED STATES, OECD REVIEWS OF NATIONAL POLICIES FOR SCIENCE AND EDUCATION.
COCKCROFT, JOHN AND OTHERS
ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT.
EDRS PRICE MF-$0.50 HC-$4.16 104P.
PUB DATE NOV 63

DESCRIPTORS- *EDUCATIONAL POLICY, *HIGHER EDUCATION, *SCIENCE EDUCATION, *SCIENTIFIC MANPOWER, *VOCATIONAL EDUCATION, COLLEGE SCIENCE, FRANCE, MANPOWER DEVELOPMENT, MANPOWER UTILIZATION, NATURAL SCIENCES, PARIS, SCIENCES, UNITED STATES.

ED 012 243
GUIDELINES FOR SCIENCE AND MATHEMATICS IN THE PREPARATION PROGRAM OF ELEMENTARY SCHOOL TEACHERS.
VIALL, WILLIAM P. AND OTHERS
NATIONAL ASSN. OF STATE DIR. OF TEACH. EDUC. CERT. AMERICAN ASSN. FOR THE ADVANCE OF SCI. WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$1.20 30P.
PUB DATE 63

DESCRIPTORS- *COLLEGE SCIENCE, *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *TEACHER EDUCATION, COLLEGE MATHEMATICS, DISTRICT OF COLUMBIA, EDUCATIONAL PROGRAMS, ELEMENTARY SCHOOL MATHEMATICS, INSERVICE EDUCATION, PRESERVICE EDUCATION.

ED 012 247
THE CHANGING SCHOOL CURRICULUM .
GOODLAD, JOHN I. AND OTHERS
FUND FOR THE ADVANCEMENT OF EDUCATION, NEW YORK.
EDRS PRICE MF-$0.50 HC-$4.88 122P.
PUB DATE AUG 66

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL MATHEMATICS, *ELEMENTARY SCHOOL SCIENCE, *SECONDARY SCHOOL SCIENCE, ANNOTATED BIBLIOGRAPHIES, BIOLOGY, CHEMICAL BOND APPROACH, CHEMISTRY, CURRICULUM EVALUATION, EDUCATIONAL OBJECTIVES, EVALUATION, HEALTH EDUCATION, INSTRUCTION, NEW YORK CITY, PHYSICAL SCIENCES, PHYSICS, SCIENCE COURSE IMPROVEMENT PROJECT, SECONDARY SCHOOL MATHEMATICS, SOCIAL SCIENCES.

ED 012 248
ANNOTATED BIBLIOGRAPHY OF GEOLOGICAL EDUCATION.
BERG, J. ROBERT AND OTHERS
AMERICAN GEOLOGICAL INST., WASHINGTON, D.C.
EDRS PRICE MF-$0.25 HC-$1.16 29P.
PUB DATE 63

DESCRIPTORS- *ANNOTATED BIBLIOGRAPHIES, *COLLEGE SCIENCE, *CURRICULUM, *EARCH SCIENCE, *GEOLOGY, *SCIENCE EDUCATION, AMERICAN GEOLOGICAL INSTITUTE, DISTRICT OF COLUMBIA, GEOSTUDY PROGRAM, GRADUATE STUDY, NATIONAL ASSOCIATION OF GEOLOGY TEACHERS, NATIONAL SCIENCE FOUNDATION, UNDERGRADUATE STUDY.

ED 012 250
NATURE CENTERS AND OUTDOOR EDUCATION FACILITIES.
NATIONAL AUDUBON SOCIETY,
NEW YORK, N. Y.
EDRS PRICE MF-$0.25 HC-$0.80 20P.
PUB DATE MAR 67

DESCRIPTORS- *COLLEGE SCIENCE, *DIRECTORIES, *ELEMENTARY SCHOOL SCIENCE, *NATURE CENTERS, *OUTDOOR EDUCATION, *SCIENCE FACILITIES *SECONDARY SCHOOL SCIENCE, BIOLOGY, CONSERVATION EDUCATION, NEW YORK CITY, SCIENCE CENTERS.

ED 012 251
THE NEW SCHOOL SCIENCE,
A REPORT TO SCHOOL ADMINISTRATORS ON

REGIONAL ORIENTATION CONFERENCES IN SCIENCE.
VIALL, WILLIAM P. AND OTHERS
AMERICAN ASSN. FOR THE ADVANCEMENT OF SCIENCE.
EDRS PRICE MF-$0.50 HC-$4.00 100P.
PUB DATE 63

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *ELEMENTARY SCHOOL SCIENCE, *SECONDARY SCHOOL SCIENCE, ADMINISTRATION, BIOLOGY, CHEMICAL BOND APPROACH, CHEMISTRY, CURRICULUM, DISTRICT OF COLUMBIA, EARTH SCIENCE, EARTH SCIENCE CURRICULUM PROJECT, NATIONAL SCIENCE FOUNDATION, NATURAL SCIENCES, PHYSICS, SCHOOL ADMINISTRATION, SCIENCE COURSE IMPROVEMENT PROJECT, SUPERVISION.

GPO 808-827-1

ED 012 252
THE DIFFERENTIAL EFFECT OF INTERIM TESTING IN THE USE OF AN AUTO-INSTRUCTIONAL PROGRAM IN AN AREA OF GENERAL SCIENCE FOR TEACHERS.
SHELL, WILLIAM B. TRIPP, JOHN D.
AUBURN UNIV., ALA.
EDRS PRICE MF-$0.25 HC-$2.00 50P.
PUB DATE AUG 67

DESCRIPTORS- *ACADEMIC ACHIEVEMENT, *COLLEGE SCIENCE, *EVALUATION, *GENERAL SCIENCE, *INSTRUCTIONAL PROCEDURES, *PROGRAMED INSTRUCTION, ATOMIC STRUCTURE, AUBURN, CHEMICAL BONDING, LEARNING, NELSON DENNY READING TEST, RETENTION, SEQUENTIAL TEST OF EDUCATIONAL PROGRESS, TEACHER EDUCATON, TESTING.

SEIAC

NEWSLETTER

AN ERIC

Center Comments

The ERIC Information Analysis Center for Science Education has been involved in developing a number of information services possibly related to science education. We are pleased to announce that the ERIC Information Analysis Center for Science Education and the National Science Teachers Association are cooperating to provide a series of articles related to the teaching of science in the elementary school and the secondary school.

The Science Teacher will begin carrying the series related to the secondary school in the January issue. Articles will also be included in the March and May issues. Scheduled topics are "An Analysis of Research Related to the Education of Secondary School Science Teachers," "An Analysis of Research Related to Instructional Procedures for Teaching Secondary School Science," and "An Analysis of Research Related to Instructional Materials for Teaching Secondary School Science." The articles will present an overview of pertinent investigations and will provide a selective bibliography for each topic.

Similar articles analyzing research pertinent to elementary school science will be carried in *Science and Children*. The elementary series will begin with the February issue.

Other information analysis materials are being developed for publication and will be announced in future issues of the SEIAC Newsletter.

Descriptions of Outdoor Education Programs

Many requests have been received for copies of the SEIAC Newsletter (Volume 1, Number 5) which described outdoor education programs that included science education in their activities. A limited number of the newsletters are still available.

The Center is attempting to maintain a listing of current outdoor education programs which include science education activities. If you are responsible for such a program we would appreciate receiving a description of your program and any copies of instructional materials.

Science Education Documents Available through EDRS

A previous issue of the SEIAC Newsletter (Volume 1, Number 6) listed documents related to science education that are available through the ERIC Document Reproduction Service (EDRS). All documents related to science education and available through EDRS as of January 1, 1968 are listed. Copies of the newsletter are available on request.

Mathematics Education Documents Available through EDRS

Many requests have been received for documents related to mathematics education that are available through the ERIC Document Reproduction Service (EDRS). Information analysts have reviewed all issues of *Research in Education* through December 1967, U.S. *Office of Education Research Reports, 1965*, and *Program Research Information, Fiscal Year 1966*. This issue of the SEIAC Newsletter contains a listing of documents related to mathematics education from these three sources. The documents are listed according to the publication in which they were announced.

Author, title, descriptive information and prices are provided for each document. Prices listed are current EDRS prices. When ordering documents be certain to provide the ERIC document number of each document and indicate whether you desire microfiche (MF) or hard copy (HC). If your order does not exceed $3.00, a 50¢ handling charge should be included. Requests for documents should be addressed to: EDRS, The National Cash Register Company, 4936 Fairmont Avenue, Bethesda, Maryland 20014.

SE 007 435

MATHEMATICS EDUCATION REPORTS

IN

U.S. OFFICE OF EDUCATION RESEARCH REPORTS, 1956—1965

ED 002 781
AN ANALYSIS OF LEARNING EFFICIENCY IN ARITHMETIC OF MENTALLY RETARDED CHILDREN IN COMPARISON WITH CHILDREN OF AVERAGE AND HIGH INTELLIGENCE.
KLAUSMEIER, HERBERT J. AND OTHERS
WISCONSIN UNIV., MADISON
EDRS PRICE MF-$0.75 HC-$7.12 178P.
PUB DATE AUG 59
DESCRIPTORS- *ARITHMETIC, *LEARNING, *MENTAL RETARDATION, *PHYSICAL DEVELOPMENT, *RETARDED CHILDREN, ACHIEVEMENT, COMPARATIVE ANALYSIS, ELEMENTARY SCHOOL STUDENTS, MADISON, MILWAUKEE, PUBLIC SCHOOLS, RETENTION, WISCONSIN.

ED 002 866
A TRANSLATION OF RUSSIAN FIRST-GRADE ARITHMETIC.
CALANDRA, ALEXANDER
WASHINGTON UNIV., ST. LOUIS, MO.
EDRS PRICE MF-$0.75 HC-$5.80 145P.
PUB DATE 59
DESCRIPTORS- *ARITHMETIC, *GRAPHS, *MATHEMATICS INSTRUCTION, *RUSSIAN, MISSOURI, ST. LOUIS, TEACHING METHODS.

ED 002 974
PROBLEM-SOLVING PROFICIENCY AMONG ELEMENTARY SCHOOL TEACHERS, IV. FURTHER INVESTIGATIONS OF TEACHERS OF ARITHMETIC, GRADES 3–6.
TURNER, RICHARD L.
INDIANA UNIV., BLOOMINGTON
INST. OF EDUC. RES.
EDRS PRICE MF-$0.25 HC-$2.08 52P.
PUB DATE FEB 61
DESCRIPTORS- *ARITHMETIC, *ELEMENTARY SCHOOL TEACHERS, *PROBLEM SOLVING, *TEACHER EVALUATION, *TEACHING TECHNIQUES, ALLPORT VERNON LINDZEY STUDY OF VALUES, BLOOMINGTON, EFFECTIVE TEACHING, INDIANA, INTELLIGENCE, MINNESOTA TEACHER ATTITUDE INVENTORY (MTAI), TEACHER CHARACTERISTICS.

ED 003 038
ABILITIES OF FIRST-GRADE PUPILS TO LEARN MATERIALS IN TERMS OF ALGEBRAIC STRUCTURES BY TEACHING MACHINES.
KEISLAR, EVAN R. CRAWFORD, ROBERT C.
CALIF. UNIV., LOS ANGELES
EDRS PRICE MF-$0.50 HC-$4.76 119P.
PUB DATE DEC 61
DESCRIPTORS- *AUDIOVISUAL INSTRUCTION, *AUTO-INSTRUCTIONAL AIDS, *GRADE 1, *MATHEMATICS INSTRUCTION, *TEACHING MACHINES, CALIFORNIA, COMPARATIVE ANALYSIS, CONVENTIONAL INSTRUCTION, CUISENAIRE BLOCKS, GRADE 4, GROUP TESTS, INSTRUCTIONAL PROGRAMS, INTERVIEWS, LOS ANGELES, PROGRAMED INSTRUCTION, SANTA MONICA, VIDEOSONIC TEACHING MACHINE (HUGHES AIRCRAFT CO.).

ED 003 053
EVALUATION OF THE MADISON PROJECT METHOD OF TEACHING IN ARITHMETIC SITUATIONS, GRADES 4, 5, AND 6.
BROWN, WM. F.
N.Y. STATE EDUC. DEPT., ALBANY.
EDRS PRICE MF-$0.25 HC-$2.20 55P.
PUB DATE 63

DESCRIPTORS- *ARITHMETIC, *EFFECTIVE TEACHING, *MODERN MATHEMATICS, *PROGRAM EVALUATION, *TEACHING TECHNIQUES, CALIFORNIA TEST OF MENTAL MATURITY, CURRICULUM PLANNING, EDUCATIONAL EXPERIMENTS, IOWA TEST OF BASIC SKILLS, LEARNING READINESS, MADISON PROJECT, MATHEMATICS CURRICULUM, MATHEMATICS MATERIALS, NEW YORK, STUDENT IMPROVEMENT, STUDENT INTERESTS, SYRACUSE, SYRACUSE TEST OF ALGEBRAIC FLUENCY.

ED 003 128
A PROJECT FOR THE IMPROVED USE OF NEWER EDUCATIONAL MEDIA IN ELEMENTARY SCHOOL MATHEMATICS.
ZANT, JAMES H. AND OTHERS
OKLAHOMA STATE UNIV., STILLWATER
AGRIC.-APPL. SCI.
EDRS PRICE MF-$0.25 HC-$2.12 53P.
PUB DATE 31 AUG 65
DESCRIPTORS- *CONFERENCES, *ELEMENTARY EDUCATION, *INSTRUCTIONAL MATERIALS, *MATHEMATICS MATERIALS, *PROGRAMED INSTRUCTION, CONSULTANTS, COURSE OBJECTIVES

EDUCATIONAL PROBLEMS, EVALUATION METHODS, MEDIA SPECIALISTS, OKLAHOMA, PROGRAM DEVELOPMENT, STILLWATER.

ED 003 162
RESEARCH MEMORANDUM, EVALUATION OF AN INSERVICE TELEVISION TRAINING PROGRAM IN MATHEMATICS FOR ELEMENTARY TEACHERS.
MILLS, DONALD F. KOPSTEIN, FELIX F.
EDUCATIONAL TESTING SERVICE,
PRINCETON, N.J.
EDRS PRICE MF-$0.75 HC-$6.68 167P.
PUB DATE APR 65
DESCRIPTORS- *ACHIEVEMENT TESTS, *ELEMENTARY SCHOOL TEACHERS, *INSERVICE TEACHER EDUCATION, *INSTRUCTIONAL TELEVISION, *MODERN MATHEMATICS, *TEACHER ATTITUDES, EDUCATIONAL TELEVISION, EDUCATIONAL TESTING SERVICE (ETS), ETS COOPERATIVE STRUCTURE OF THE NUMBER SYSTEM TEST, ETS COOPERATIVE ARITHMETIC TEST, MATHEMATICS, NEW JERSEY, PRINCETON, SPECIAL INSIGHTFUL ARITHMETIC TEST, TEACHER SEMINARS.

ED 003 178
COMPARATIVE RESEARCH ON METHODS AND MEDIA FOR PRESENTING PROGRAMED COURSES IN MATHEMATICS AND ENGLISH.
CARPENTER, C. R. GREENHILL, L. P.
PENNSYLVANIA STATE UNIV., UNIVERSITY PARK
EDRS PRICE MF-$0.50 HC-$3.36 84P.
PUB DATE MAR 63
DESCRIPTORS- *ENGLISH INSTRUCTION, *MATHEMATICS INSTRUCTION, *MEDIA RESEARCH, *METHODS RESEARCH, *PROGRAMED INSTRUCTION, CLOSED CIRCUIT TELEVISION, COMPARATIVE ANALYSIS, GROUP INSTRUCTION, PACING, PENNSYLVANIA, PROGRAMED MATERIALS, TIME FACTORS (LEARNING), UNIVERSITY PARK.

ED 003 197
THE TEACHER, PROGRAMED MATERIALS, AND INSTRUCTIONAL INTERACTION, SUPPLEMENTAL MANUAL.
ARCHER, N. SIDNEY AND OTHERS
WEST CHESTER STATE COLL., PA.
COOP. RES. CENTER
EDRS PRICE MF-$0.50 HC-$3.32 83P.
PUB DATE 64
DESCRIPTORS- *ALGEBRA, *INSTRUCTIONAL MATERIALS, *MATHEMATICAL ENRICHMENT, *MATHEMATICS MATERIALS, *PROGRAMED INSTRUCTION, *STUDENT TEACHER RELATIONSHIP, FILMS, FILMSTRIPS, INSTRUCTIONAL AIDS, MANUALS, MODERN MATHEMATICS, PENNSYLVANIA, READING MATERIALS, RESOURCE MATERIALS, WEST CHESTER.

ED 003 203
RESEARCH WITH A PROGRAM ON GEOMETRIC INEQUALITIES.
COULSON, JOHN E.
SYSTEM DEVELOPMENT CORP.,
SANTA MONICA, CALIF.
EDRS PRICE MF-$0.50 HC-$3.40 85P.
PUB DATE 26 JUN 64
DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *GEOMETRY, *INDIVIDUAL STUDY, *LEARNING PROCESSES, *PROGRAMED INSTRUCTION, CALIFORNIA, EDUCATIONAL RESEARCH, HIGH SCHOOL STUDENTS, INDIVIDUAL DIFFERENCES, LEARNING DIFFICULTIES, PROGRAM DESIGN, PROGRAM IMPROVEMENT, PROGRAMED UNITS, SANTA MONICA, TUTORING.

ED 003 217
NONPROGRAM VARIABLES IN THE APPLICATION OF PROGRAMED INSTRUCTION.
COULSON, JOHN E. AND OTHERS
SYSTEM DEVELOPMENT CORP.,
SANTA MONICA, CALIF.
EDRS PRICE MF-$0.25 HC-$1.56 39P.
PUB DATE 21 JUL 65
DESCRIPTORS- *COMPUTER ASSISTED INSTRUCTION, *EDUCATIONAL EXPERIMENTS, *GEOMETRY, *HIGH SCHOOL STUDENTS, *LEARNING, *PROGRAMED INSTRUCTION, CALIFORNIA, INSTRUCTIONAL MATERIALS, PERFORMANCE FACTORS, SANTA MONICA, TEACHER ROLE.

ED 003 234
NEW MEDIA FOR IMPROVEMENT OF ALGEBRA INSTRUCTION.
CHURCH, JOHN G. AND OTHERS
STATE UNIV. OF N. Y., ALBANY
EDRS PRICE MF-$1.75 HC-$17.64 441P.
PUB DATE JUN 64
DESCRIPTORS- *ALGEBRA, *AUDIOVISUAL INSTRUCTION, *PROGRAMED INSTRUCTION, *VISUAL LEARNING, ALBANY, AUDIOVISUAL AIDS, GRADE 9, INSTRUCTIONAL FILMS, INSTRUCTIONAL MATERIALS, NEW YORK, PROGRAM EVALUATION.

ED 003 237
THE TEACHER, PROGRAMED MATERIALS, AND INSTRUCTIONAL INTERACTION, SUPPLEMENTAL MANUAL.
ARCHER, N. SIDNEY AND OTHERS
WEST CHESTER STATE COLL., PA.,
COOP. RES. CENTER
EDRS MF-$0.50 HC-$3.32 83P.
PUB DATE 64
DESCRIPTORS- *ALGEBRA, *INSTRUCTIONAL MATERIALS, *MATHEMATICAL ENRICHMENT, *MATHEMATICS MATERIALS, *PROGRAMED INSTRUCTION, *STUDENT TEACHER RELATIONSHIP, FILMS, FILMSTRIPS, INSTRUCTIONAL AIDS, MODERN

MATHEMATICS, PENNSYLVANIA, READING MATERIALS, RESOURCE MATERIALS, WEST CHESTER.

ED 003 238
THE TEACHER, PROGRAMED MATERIALS, AND INSTRUCTIONAL INTERACTION, TESTS AND FINAL EXAMINATION WITH ANSWERS.
ARCHER, N. SIDNEY
WEST CHESTER STATE COLL., PA.
COOP. RES. CENTER
EDRS PRICE MF-$0.50 HC-$3.92 98P.
PUB DATE 64
DESCRIPTORS- *ALGEBRA, *TESTS, INSTRUCTIONAL INTERACTION, MATHEMATICS INSTRUCTION, PENNSYLVANIA, PROGRAMED INSTRUCTION, WEST CHESTER.

ED 003 255
ITEM ANALYSIS, TEST DESIGN, AND CLASSIFICATION.
SOLOMON, HERBERT
STANFORD UNIV., CALIF.
EDRS PRICE MF-$1.50 HC-$15.40 385P.
DESCRIPTORS- *DATA ANALYSIS, *MATHEMATICAL APPLICATIONS, *MEASUREMENT INSTRUMENTS, *MODELS, *TEST CONSTRUCTION, CALIFORNIA, FACTOR ANALYSIS, MATHEMATICAL CONCEPTS, MATHEMATICS, PROBABILITY, QUESTIONNAIRES, RESEARCH METHODOLOGY, STANFORD, STATISTICAL ANALYSIS, TEST SELECTION, TESTS.

ED 003 257
DETERMINATION OF "STRUCTURE-OF-INTELLECT" ABILITIES INVOLVED IN NINTH-GRADE ALGEBRA AND GENERAL MATHEMATICS.
PETERSEN, H. AND OTHERS
UNIV. OF S. CALIF., L. A.
EDRS PRICE MF-$0.25 HC-$1.68 42P.
PUB DATE OCT 63
DESCRIPTORS- *ACADEMIC APTITUDE, *FACTOR ANALYSIS, *MATHEMATICS INSTRUCTION, *PREDICTIVE ABILITY (TESTING), *TEST VALIDITY, ACHIEVEMENT TESTS, APTITUDE TESTS, CALIFORNIA, LEARNING PROCESSES, LOS ANGELES, NINTH GRADE.

ED 003 299
ARITHMETICAL ABSTRACTIONS–THE MOVEMENT TOWARD CONCEPTUAL MATURITY UNDER DIFFERING SYSTEMS OF INSTRUCTION.
BROWNELL, WM. A.
CALIFORNIA UNIV., BERKELEY
EDRS PRICE MF-$1.50 HC-$14.64 366P.
PUB DATE JUL 64
DESCRIPTORS- *ARITHMETIC, *COMPARATIVE EDUCATION, *CONCEPT FORMATION, *INSTRUCTIONAL PROGRAMS, *MATHEMATICAL CONCEPTS, *MATHEMATICS INSTRUCTION, BERKELEY, CALIFORNIA, COMPARATIVE ANALYSIS, ELEMENTARY EDUCATION, ENGLAND, INTERVIEWS, SCOTLAND.

ED 003 345
THE DEVELOPMENT OF DIFFERENTIATION AND CONSERVATION OF NUMBER.
ZIMILES, HERBERT AND OTHERS
BANK STREET COLL. OF EDUCATION, NEW YORK, N. Y.
EDRS PRICE MF-$0.50 HC-$3.24 81P.
PUB DATE 65
DESCRIPTORS- *COGNITIVE PROCESSES, *GRADE 1, *KINDERGARTEN CHILDREN, *LOGICAL THINKING, *NUMBERS, ATTITUDES, COGNITIVE MEASUREMENT, DRAW A MAN TEST, INTELLIGENCE, NEW YORK, NEW YORK CITY, NUMBER CONCEPTS, PICTURE VOCABULARY TEST.

ED 003 346
SEQUENCE CHARACTERISTICS OF TEXT MATERIALS AND TRANSFER OF LEARNING. PART I–EXPERIMENTS IN DISCOVERY LEARNING.
DELLA-PIANA, GABRIEL M. AND OTHERS
UTAH UNIV., SALT LAKE CITY
BUREAU OF EDUC. RES.
EDRS PRICE MF-$1.00 HC-$8.12 203P.
PUB DATE DEC 65
DESCRIPTORS- *COMPARATIVE ANALYSIS, *INSTRUCTIONAL MATERIALS, *LEARNING PROCESSES, *MATHEMATICS INSTRUCTION, *PROGRAMED TEXTS, ALGEBRA, GRADE 5, GRADE 6, GRADE 9, SALT LAKE CITY, SEQUENTIAL PROGRAMS, TEACHING TECHNIQUES, UTAH.

ED 003 347
SEQUENCE CHARACTERISTICS OF TEXT MATERIALS AND TRANSFER OF LEARNING, PART 2 APPENDICES–TASKS AND TESTS.
DELLA-PIANA, GABRIEL M. AND OTHERS
UTAH UNIV., SALT LAKE CITY
BUREAU OF EDUC. RES.
EDRS PRICE MF-$1.25 HC-$11.20 280P.
PUB DATE DEC 65
DESCRIPTORS- *INSTRUCTIONAL MATERIALS, *MATHEMATICS INSTRUCTION, *PROGRAMED TEXTS, *REFERENCE MATERIALS, *TEACHING TECHNIQUES, LEARNING PROCESSES, SALT LAKE CITY, SEQUENTIAL PROGRAMS, UTAH.

ED 003 348
SELF-SELECTED MATHEMATICS LEARNING ACTIVITIES.
FITZGERALD, WM. M.
MICHIGAN UNIV., ANN ARBOR
EDRS PRICE MF-$0.50 HC-$4.20 105P.
PUB DATE 65
DESCRIPTORS- *AUTOINSTRUCTIONAL PROGRAMS, *EXPERIMENTAL PROGRAMS, *INTER-

MEDIATE GRADES, *MATHEMATICS MATERIALS, *MEASUREMENT INSTRUMENTS, ANN ARBOR, GRADE 7, GRADE 8, JUNIOR HIGH SCHOOLS, MICHIGAN.

ED 003 367
EXPERIMENTAL TEACHING OF MATHEMATICAL LOGIC IN THE ELEMENTARY SCHOOL.
SUPPES, PATRICK BINFORD, FREDERICK
STANFORD UNIV., CALIF.
EDRS PRICE MF-$0.25 HC-$2.24 56P.
PUB DATE 64

DESCRIPTORS- *DECISION MAKING SKILLS, *ELEMENTARY EDUCATION, *LOGICAL THINKING, *MODERN MATHEMATICS, *TEACHER EDUCATION, CALIFORNIA, GRAMMAR, MATHEMATICAL CONCEPTS, MATHEMATICS, MATHEMATICS CURRICULUM, MATHEMATICS INSTRUCTION, STANFORD, TEACHER IMPROVEMENT, TRANSFER OF TRAINING.

ED 003 369
A MODERN MATHEMATICS PROGRAM AS IT PERTAINS TO THE INTERRELATIONSHIP OF MATHEMATICAL CONTENT, TEACHING METHODS AND CLASSROOM ATMOSPHERE (THE MADISON PROJECTS).
DAVIS, ROBT. B.
SYRACUSE UNIV., N.Y.
EDRS PRICE MF-$0.50 HC-$3.16 79P.
PUB DATE 63
DESCRIPTORS- *DEMONSTRATION PROGRAMS, *DEMONSTRATION PROJECTS, *MATHEMATICS CURRICULUM, *MATHEMATICS INSTRUCTION, *MATHEMATICS MATERIALS, FILMS, INSTRUCTIONAL FILMS, INSTRUCTIONAL INNOVATION, MADISON PROJECT, MISSOURI, NEW YORK, SYRACUSE, TAPE RECORDINGS, TESTING, WEBSTER GROVES.

ED 003 371
A MODERN MATHEMATICS PROGRAM AS IT PERTAINS TO THE INTERRELATIONSHIP OF MATHEMATICAL CONTENT, TEACHING METHODS, AND CLASSROOM ATMOSPHERE, (THE MADISON PROJECT)
DAVIS, ROBT. B.
SYRACUSE UNIV., N. Y.
EDRS PRICE MF-$0.75 HC-$6.08 152P.
PUB DATE 65
DESCRIPTORS- *CURRICULUM ENRICHMENT, *EDUCATIONAL THEORIES, *ELEMENTARY EDUCATION, *MATHEMATICS CURRICULUM, *MODERN MATHEMATICS, CLASSROOM ENVIRONMENT, DEMONSTRATION PROJECTS, FILMS, MADISON PROJECT, MASS MEDIA, MATHEMATICS, MISSOURI, NEW YORK, SYRACUSE, TAPE RECORDINGS, TEACHER EDUCATION, TEACHING METHODS, WEBSTER GROVES.

ED 003 462
TEACHER-PUPIL INTERACTION DIFFERENCES BETWEEN SCHOOL MATHEMATICS STUDY GROUP AND TRADITIONAL MATHEMATICS.
SLOAN, FRED A. PATE, ROBERT T.
OKLAHOMA UNIV., NORMAN
RESEARCH INSTITUTION
EDRS PRICE MF-$0.50 HC-$2.60 65P.
PUB DATE 64
DESCRIPTORS- *CURRICULUM DEVELOPMENT, *MODERN MATHEMATICS, *TEACHER IMPROVEMENT, *TEACHING METHODS, DISCOVERY PROCESSES, GRADE 4, NORMAN, OKLAHOMA, PROVO CODE FOR ANALYSIS OF TEACHING, STUDENT TEACHER RELATIONSHIP.

ED 003 538
EXPERIMENTATION IN THE ADAPTATION OF THE OVERHEAD PROJECTOR UTILIZING 200 TRANSPARENCIES AND 800 OVERLAYS IN TEACHING ENGINEERING DESCRIPTIVE GEOMETRY CURRICULA.
CHANCE, CLAYTON W.
TEXAS UNIV., AUSTIN
EDRS PRICE MF-$0.25 HC-$2.12 53P.
PUB DATE 60
DESCRIPTORS- *CONVENTIONAL INSTRUCTION, *ENGINEERING DRAWING, *GEOMETRY, *OVERHEAD PROJECTORS, *PROGRAM EVALUATION, *TRANSPARENCIES, AUSTIN, COMPARATIVE ANALYSIS, LECTURE, PROBLEM SOLVING, TEXAS.

ED 003 558
MATHEMATICS INDIVIDUAL LEARNING EXPERIMENT.
CROSBY, GLADYS AND OTHERS
CITY UNIV. OF N. Y.,
QUEENS COLL., FLUSHING, N. Y.
EDRS PRICE MF-$0.50 HC-$4.56 114P.
PUB DATE 60
DESCRIPTORS- *ACHIEVEMENT, *ALGEBRA, *GRADE 9, *GROUP INSTRUCTION, *INDIVIDUAL INSTRUCTION, DIFFERENTIAL APTITUDE TEST, FLUSHING, INSERVICE TEACHER EDUCATION, JUNIOR HIGH SCHOOLS, MATHEMATICS INSTRUCTION, NEW YORK, NEW YORK CITY, QUEENS COLLEGE.

ED 003 562
TELEVISION AND CONSULTANT SERVICES AS METHODS OF INSERVICE EDUCATION FOR ELEMENTARY SCHOOL TEACHERS OF MATHEMATICS.
DEVAULT, VERE M. AND OTHERS
TEXAS UNIV., AUSTIN
EDRS PRICE MF-$0.75 HC-$5.56 139P.
PUB DATE 62
DESCRIPTORS- *ACHIEVEMENT, *INSTRUCTIONAL TELEVISION, *MATHEMATICS, *TEACHER EDUCATION, *TEACHING METHODS, AUSTIN, TEXAS.

ED 003 573
THE COMPARATIVE EFFECTIVENESS OF SOUND MOTION PICTURES AND PRINTED COMMUNICATIONS FOR THE MOTIVATION OF HIGH SCHOOL STUDENTS IN MATHEMATICS.
TIEMENS, ROBT. K.
IOWA UNIV., IOWA CITY
EDRS PRICE MF-$0.50 HC-$3.08 77P.
PUB DATE 62
DESCRIPTORS- *FILMS, *HIGH SCHOOL STUDENTS, *MATHEMATICS, *STUDENT ATTITUDES, *STUDENT MOTIVATION, ALGEBRA, IOWA, IOWA CITY, TEXTBOOKS.

ED 003 579
PROGRAMED MATERIALS IN MATHEMATICS FOR SUPERIOR STUDENTS IN RURAL SCHOOLS.
SMITH, WENDELL I. MOORE, J. WM.
BUCKNELL UNIV., LEWISBURG, PA.
EDRS PRICE MF-$0.50 HC-$3.40 85P.
PUB DATE 62
DESCRIPTORS- *MATHEMATICS INSTRUCTION, *PROGRAMED INSTRUCTION, *PROGRAMED TEXTS, *RURAL SCHOOLS, *SUPERIOR STUDENTS, AUTOINSTRUCTIONAL PROGRAMS, LEWISBURG, PENNSYLVANIA, TEACHING MACHINES.

ED 003 585
PRINCIPLES OF PROGRAMING MATERIAL FOR TEACHING MACHINES AND THEIR RELATION TO TRANSFER OF TRAINING.
LEVIN, GERALD R.
BROWN UNIV., PROVIDENCE, R. I.
EDRS PRICE MF-$0.25 HC-$0.96 24P.
PUB DATE 61
DESCRIPTORS- *AUTOINSTRUCTIONAL PROGRAMS, *GEOMETRY, *GRADE 2, *PROGRAMING, *TEACHING MACHINES, ACHIEVEMENT TESTS, AUTOINSTRUCTIONAL METHODS, PROGRAMED UNITS, PROVIDENCE, RHODE ISLAND.

ED 003 605
THE INFLUENCE OF NOVELTY EFFECT UPON TEACHING MACHINE LEARNING.
POPHAM, W. JAMES
SAN FRAN. STATE COLL., CALIF.
EDRS PRICE MF-$0.25 HC-$0.72 18P
PUB DATE AUG 62
DESCRIPTORS- *ALGEBRA, *GEOMETRY, *GRADE 6, *PROGRAMED INSTRUCTION, *TEACHING MACHINES, AUTOINSTRUCTIONAL AIDS, CALIFORNIA, CALIFORNIA TEST OF MENTAL MATURITY, COMPARATIVE ANALYSIS, CONVENTIONAL INSTRUCTION, ELEMENTARY GRADES, PERFORMANCE, PROGRAM EVALUATION, SAN FRANCISCO, SRA ARITHMETIC ACHIEVEMENT TEST.

ED 003 614
REQUIREMENTS FOR GRAPHIC TEACHING MACHINES.
HICKEY, ALBERT AND OTHERS
NORTHEASTERN UNIV., BOSTON, MASS.
EDRS PRICE MF-$0.50 HC-$3.08 77P.
PUB DATE 31 DEC 62
DESCRIPTORS- *AUDIOVISUAL AIDS, *GRAPHIC ARTS, *MATHEMATICAL CONCEPTS, *TEACHING MACHINES, *TEXTBOOK EVALUATION, ALGEBRA, BOSTON, EXPERIMENTAL PROGRAMS, HIGH SCHOOLS, INSTRUCTIONAL MATERIALS, LEARNING PROCESSES, MASSACHUSETTS, STIMULUS BEHAVIOR, TEACHING TECHNIQUES, TEXTBOOKS.

ED 003 636
A STUDY CONCERNING THE EFFECT OF AN AURAL INCREMENT IN PROGRAMED AUTOINSTRUCTIONAL MATHEMATICAL MATERIAL FOR COLLEGE STUDENTS.
SOWELL, KATYE OLIVER
FLORIDA ST. UNIV., TALLAHASSEE
EDRS PRICE MF-$0.50 HC-$2.76 69P.

DESCRIPTORS- *AUTOINSTRUCTIONAL AIDS, *COLLEGE STUDENTS, *MATERIAL DEVELOPMENT, *MATHEMATICS INSTRUCTION, *TAPE RECORDERS, FLORIDA, INSTRUCTIONAL MATERIALS, PROGRAMED MATERIALS, PROGRAMED TEXTS, PROGRAMED UNIT, TALLAHASSEE.

ED 003 654
A COMPARISON OF AUTOMATED TEACHING PROGRAMS WITH CONVENTIONAL TEACHING METHODS AS APPLIED TO TEACHING MENTALLY RETARDED STUDENTS.
PRICE, JAMES E.
PARTLOW STATE SCHOOL,
TUSCALOOSA, ALA.
EDRS PRICE MF-$0.25 HC-$0.52 13P.
PUB DATE 61
DESCRIPTORS- *ARITHMETIC, *AUTOINSTRUCTIONAL METHODS, *COMPARATIVE ANALYSIS, *MENTALLY HANDICAPPED, *PROGRAMED INSTRUCTION, ALABAMA, ANSWER CONSTRUCT (AC), MULTIPLE CHOICE (MC), PROBLEM SOLVING, TEACHING MACHINES, TUSCALOOSA.

ED 003 669
INTELLECTUAL PROCESSES RELATED TO MATHEMATICS ACHIEVEMENT AT GRADE LEVELS 4, 5, AND 6.
WESTBROOK, HELEN R. AND OTHERS
GEORGIA UNIV., ATHENS
EDRS PRICE MF-$1.25 HC-$12.88 322P.
PUB DATE 65
DESCRIPTORS- *ACHIEVEMENT, *INTELLIGENCE, *MATHEMATICS INSTRUCTION, *PSYCHOLOGICAL STUDIES, *THOUGHT PROCESSES, ACADEMIC ACHIEVEMENT, ATHENS, ELEMENTARY EDUCATION, GEORGIA, INSTRUCTIONAL IMPROVEMENT,

INTELLECTUAL DEVELOPMENT, PSYCHOLOGICAL PATTERNS, STUDENT CHARACTERISTICS.

ED 003 827
SYSTEMATIC OBSERVATION OF VERBAL INTERACTION AS A METHOD OF COMPARING MATHEMATICS LESSONS.
WRIGHT, E. MURIEL J. PROCTOR, VIRGINIA H.
WASHINGTON UNIV., ST. LOUIS, MO.
EDRS PRICE MF-$1.50 HC-$15.20 380P.
PUB DATE JUN 61

DESCRIPTORS- *MATHEMATICS INSTRUCTION, *MEASUREMENT INSTRUMENTS, *OBSERVATION, *TEACHING METHODS, *VERBAL COMMUNICATION, COLLEGE INSTRUCTION, MISSOURI, SECONDARY EDUCATION, ST. LOUIS, TEACHER EVALUATION, TEACHER IMPROVEMENT, WRIGHT PROCTOR OBSERVATIONAL INSTRUMENT.

MATHEMATICS EDUCATION REPORTS

IN

RESEARCH IN EDUCATION

ED 010 003
A FIRST STEP TOWARDS THE IMPLEMENTATION OF THE CAMBRIDGE MATHEMATICS CURRICULUM IN A K-12 UNGRADED SCHOOL.
FOSTER, GARRETT R.
FLORIDA STATE UNIVERSITY, TALLAHASSEE
EDRS PRICE MF-$0.50 HC-$3.76 94P.
PUB DATE 66
DESCRIPTORS- *CONFERENCES, *CURRICULUM RESEARCH, *MATHEMATICS CURRICULUM, *SYSTEMS ANALYSIS, *UNGRADED SCHOOLS, ABILITY GROUPING, BROWARD COUNTY, EXPERIMENTAL PROGRAMS, FLORIDA, INDIVIDUALIZED CURRICULUM, INSERVICE TEACHER EDUCATION, NOVA SCHOOL, PROGRAM DEVELOPMENT, TALLAHASSEE, TEACHING METHODS.

ED 010 014
THE PRODUCTION AND VALIDATION OF EDUCATIONAL SYSTEMS PACKAGES FOR OCCUPATIONAL TRAINING OF DEPRESSED AREA STUDENTS, FINAL REPORT.
BUSHNELL, DON D.
BROOKS FOUNDATION,
SANTA BARBARA, CALIFORNIA
EDRS PRICE MF-$0.25 MC-$1.64 41P.
PUB DATE 30 MAR 66
DESCRIPTORS- *INSTRUCTIONAL IMPROVEMENT, *INSTRUCTIONAL MATERIALS, *MATHEMATICS INSTRUCTION, *TEACHING TECHNIQUES, CALIFORNIA, SANTA BARBARA, TENTH GRADE, TUTORING, VOCATIONAL EDUCATION.

ED 010 039
ORGANIZATION OF MATHEMATICS IN GRADES 4, 5, AND 6.
BLAKE, KATHRYN A. AND OTHERS
UNIV. OF GEORGIA, ATHENS
EDRS PRICE MF-$0.75 MC-$6.64 166P.
PUB DATE 66
DESCRIPTORS- *COURSE ORGANIZATION, *HORIZONTAL ORGANIZATION, *MATHEMATICS INSTRUCTION, *SEQUENTIAL APPROACH, *VERTICAL ORGANIZATION, ATHENS, CLARKE COUNTY, ELEMENTARY GRADES, GEORGIA, MATHEMATICS CURRICULUM.

ED 010 056
A COMPARISON OF MATHEMATICS PROGRAMS FOR ABLE JUNIOR HIGH SCHOOL STUDENTS, VOLUME 1 -- FINAL REPORT.
GOLDBERG, MIRIAM L. AND OTHERS
COLUMBIA UNIV.
EDRS PRICE MF-$1.25 HC-$12.44 311P.
PUB DATE MAY 66
DESCRIPTORS- *JUNIOR HIGH SCHOOL, *MATHEMATICS CURRICULUM, *MATHEMATICS INSTRUCTION, *TEACHING METHODS, COMPARATIVE ANALYSIS, LEARNING PROCESSES, LORGE-THORNDIKE VERBAL INTELLIGENCE TEST, MATHEMATICAL ENRICHMENT, MATHEMATICS, NEW YORK, NEW YORK CITY, STEP MATHEMATICS TESTS, STEP READING TESTS.

ED 010 057
A COMPARISON OF MATHEMATICS PROGRAMS FOR ABLE JUNIOR HIGH SCHOOL STUDENTS.
GOLDBERG, MIRIAM L. AND OTHERS
COLUMBIA UNIV.
EDRS PRICE MF-$0.50 HC-$4.96 124P.
PUB DATE 66
DESCRIPTORS- *COMPARATIVE ANALYSIS, *JUNIOR HIGH SCHOOL, *MATHEMATICS CURRICULUM, *TABLES (DATA), NEW YORK, NEW YORK CITY.

ED 010 109
BRIDGING THE GRADE SIX TO SEVEN GAP WITH CONTINUOUS PROGRESS.
KELLETT, JEREMIAH J.
WESTON JUNIOR HIGH SCHOOL, MASS.
EDRS PRICE MF-$0.25 HC-$1.32 33P.
PUB DATE 66
DESCRIPTORS- *AUTOINSTRUCTIONAL PROGRAMS, *COMPARATIVE STUDIES, *ELEMENTARY EDUCATION, *LEARNING LABORATORY, *MATHEMATICS INSTRUCTION, MASSACHUSETTS, PERFORMANCE FACTORS, STUDENT ATTITUDES, WESTON.

ED 010 110
UTILIZATION OF COMPUTER FACILITIES IN THE MATHEMATICS AND BUSINESS CURRICULUM IN A LARGE SUBURBAN HIGH SCHOOL.
RENO, MARTIN AND OTHERS
CASE INST. OF TECHNOLOGY, CLEVELAND
EDRS PRICE MF-$0.25 HC-$1.04 26P.
PUB DATE 66
DESCRIPTORS- *COMPUTER PROGRAMS, *COMPUTERS, *DATA PROCESSING, *HIGH SCHOOL STUDENTS, *MATHEMATICS CURRICULUM, CLEVELAND, DIGITAL COMPUTERS, EUCLID, INFORMATION RETRIEVAL, INFORMATION SYSTEMS, INSTRUCTIONAL INNOVATION, OHIO, PROGRAMING, STUDENT PARTICIPATION.

ED 010 184
A STUDY OF PSYCHOLOGICAL PATTERNS IN LEARNING ELEMENTARY MATHEMATICS.
RESTLE, FRANK
INDIANA UNIV., BLOOMINGTON
EDRS PRICE MF-$0.50 HC-$4.04 101P.
PUB DATE 66
DESCRIPTORS- *COLLEGE STUDENTS, *MATHEMATICS, *PSYCHOLOGICAL STUDIES, *SECONDARY SCHOOL STUDENTS, *THOUGHT PROCESSES, BLOOMINGTON, ELEMENTARY SCHOOL STUDENTS, INDIANA, LEARNING PROCESSES, PROBLEM SOLVING.

ED 010 208
STUDIES OF THE USE OF PROGRAMED INSTRUCTION IN THE CLASSROOM.
GLASER, ROBERT AND OTHERS
UNIV. OF PITTSBURGH
EDRS PRICE MF-$0.75 HC-$7.76 194P.
PUB DATE MAY 66
DESCRIPTORS- *ARITHMETIC, EDUCATIONAL RESEARCH, *ELEMENTARY SCHOOL STUDENTS, *PROGRAMED INSTRUCTION, *SPELLING, ACHIEVEMENT, CLASSROOM RESEARCH, CLASSROOM TECHNIQUES, CLASSROOMS, EVALUATION METHODS, EVALUATION TECHNIQUES, INDIVIDUAL INSTRUCTION, INDIVIDUALIZED PROGRAMS, MANAGEMENT, PENNSYLVANIA, PITTSBURGH, PROGRAMING, RESEARCH AND DEVELOPMENT CENTERS, TESTS.

ED 010 209
MEASURES OF LEARNING RATES FOR ELEMENTARY SCHOOL STUDENTS IN MATHEMATICS AND READING UNDER A PROGRAM OF INDIVIDUALLY PRESCRIBED INSTRUCTION.
YEAGER, JOHN L.
UNIVERSITY OF PITTSBURGH
EDRS PRICE MF-$0.50 HC-$3.68 92P.
PUB DATE
DESCRIPTORS- *INDIVIDUALIZED PROGRAMS, *LEARNING LABORATORY, *MATHEMATICS INSTRUCTION, *RATING SCALE, *READING INSTRUCTION, ELEMENTARY SCHOOL STUDENTS, INDIVIDUALIZED CURRICULUM, LEARNING EXPERIENCES, MEASUREMENT TECHNIQUES, PENNSYLVANIA, PERFORMANCE FACTORS, PITTSBURGH, PROGRAMED INSTRUCTION.

ED 010 210
THE EFFECT OF AN INDIVIDUALLY PRESCRIBED INSTRUCTION PROGRAM IN ARITHMETIC ON PUPILS AT DIFFERENT ABILITY LEVELS.
DEEP, DONALD
UNIVERSITY OF PITTSBURGH
EDRS PRICE MF-$0.50 HC-$4.16 104P.
PUB DATE 66
DESCRIPTORS- *ABILITY GROUPING, *ARITHMETIC, *ELEMENTARY SCHOOL STUDENTS, *PERFORMANCE FACTORS, *PROGRAMED INSTRUCTION, ACHIEVEMENT TESTS, COMPARATIVE ANALYSIS, HIGH ACHIEVERS, INDIVIDUAL INSTRUCTION, INDIVIDUALLY PRESCRIBED INSTRUCTION (IPI), LOW ACHIEVERS, PENNSYLVANIA, PITTSBURGH.

ED 010 211
SEQUENTIALLY SCALED MATHEMATICS ACHIEVEMENT TESTS--CONSTRUCTION METHODOLOGY AND EVALUATION PROCEDURES.
BRAHAM, GLENN T.
UNIVERSITY OF PITTSBURGH
EDRS PRICE MF-$0.75 HC-$5.40 135P.
PUB DATE 66
DESCRIPTORS- *ACHIEVEMENT TESTS, *MATHEMATICS, *SEQUENTIAL APPROACH, *TEST CONSTRUCTION, *TEST VALIDITY, ELEMENTARY EDUCATION, GUTTMAN'S SCALOGRAM, METROPOLITAN ACHIEVEMENT TESTS, PENNSYLVANIA, PITTSBURGH, RATING SCALE.

ED 010 261
A STUDY OF DEVELOPMENT OF CONSERVATION OF QUANTITY.
MUKTARIAN, HERBERT H.
THOMPSON, GEORGE G.
OHIO STATE UNIVERSITY, COLUMBUS
RESEARCH FOUNDATION
EDRS PRICE MF-$0.50 HC-$2.76 69P.
PUB DATE 1 JUN 66
DESCRIPTORS- *COGNITIVE DEVELOPMENT, COLUMBUS, CONCEPT FORMATION, MATHEMATICAL MODELS, OHIO, PERCEPTUAL DEVELOPMENT.

ED 010 306
RANDOMIZATION PROCEDURES FOR THE ANALYSIS OF EDUCATIONAL EXPERIMENTS.
COLLIER, RAYMOND O.
UNIV. OF MINNESOTA, MINNEAPOLIS
EDRS PRICE MF-$0.75 HC-$6.08 152P.
PUB DATE 65
DESCRIPTORS- *COMPUTER PROGRAMS, *MATHEMATICAL MODELS, *RESEARCH METHODOLOGY, *STATISTICAL ANALYSIS, EDUCATIONAL EXPERIMENTS, MINNEAPOLIS, MINNESOTA.

ED 010 329
DEMONSTRATION OF A NONGRADED PLAN OF AN ELEMENTARY SCHOOL, UTILIZING TEAM TEACHING AND PROGRAMED INSTRUCTION TO FACILITATE LEARNING IN READING AND MATHEMATICS.
LEWIS, WILLIAM F.
TROY STATE COLLEGE, ALA.
EDRS PRICE MF-$0.50 HC-$3.48 87P.
PUB DATE OCT 66
DESCRIPTORS- *DEMONSTRATION PROJECTS, *ELEMENTARY EDUCATION, *MATHEMATICS INSTRUCTION, *NONGRADED CLASSES, *PROGRAMED INSTRUCTION, *READING INSTRUCTION,

*TEAM TEACHING, ALABAMA, TEACHING TECHNIQUES, TROY.

ED 010 378
CHARACTERISTICS OF MATHEMATICS TEACHERS THAT AFFECT STUDENTS' LEARNING.
TORRANCE, E. PAUL AND OTHERS
UNIV. OF MINNESOTA, MINNEAPOLIS
EDRS PRICE MF-$0.75 HC-$6.76 169P
PUB DATE SEP 66
DESCRIPTORS- *EFFECTIVE TEACHING, *LEARNING EXPERIENCE, *MATHEMATICS INSTRUCTION, *STUDENT TEACHER RELATIONSHIP, *TEACHER CHARACTERISTICS, INSTRUCTIONAL MATERIALS, MINNEAPOLIS, MINNESOTA, SCHOOL MATHEMATICS STUDY GROUP (SMSG), STUDENT ATTITUDES.

ED 010 393
AN ADVANCED PLACEMENT COURSE IN ANALYTIC GEOMETRY AND CALCULUS (MATHEMATICS XV X AP).
MIENTKA, WALTER E. DEROLF, JOHN J.
UNIVERSITY OF NEBRASKA, LINCOLN
EDRS PRICE MF-$0.75 HC-$5.28 132P.
PUB DATE 64
DESCRIPTORS- *ADVANCED PLACEMENT, *ANALYTIC GEOMETRY, *CALCULUS, *CORRESPONDENCE COURSES, *TEXTBOOKS, ADVANCED STUDENTS, COLLEGE PLACEMENT, CURRICULUM GUIDES, HIGH SCHOOL STUDENTS, LESSON PLANS, LINCOLN, NEBRASKA, STUDY GUIDES.

ED 010 420
ANALYSIS OF MATHEMATICAL ABILITIES REQUIRED FOR SUCCESS IN NINTH-GRADE MATHEMATICS.
LETON, DONALD A. KIM, SHARON
UNIVERSITY OF HAWAII
EDRS PRICE MF-$0.50 HC-$4.48 112P.
PUB DATE DEC 66
DESCRIPTORS- *ABILITY IDENTIFICATION, *APTITUDE TESTS, *COGNITIVE TESTS, *MATHEMATICAL CONCEPTS, *PREDICTIVE ABILITY (TESTING), FUNDAMENTAL CONCEPTS, GRADE 9, HAWAII, HONOLULU, IDENTIFICATION TESTS, MATHEMATICS CURRICULUM.

ED 010 515
SECONDARY SCHOOL PUPILS' PERCEPTION OF THE PLANE SECTIONS OF SELECTED SOLID FIGURES.
BOE, BARBARA L.
WISCONSIN UNIV., MADISON
EDRS PRICE MF-$0.25 HC-$1.72 43P.
PUB DATE NOV 66
DESCRIPTORS- *COGNITIVE MEASUREMENT, *CONCEPT FORMATION, *GEOMETRY, *PERCEPTION TESTS, *RESPONSE MODE, GRADE 10, GRADE 12, GRADE 8, MADISON, MATHEMATICAL CONCEPTS, MATHEMATICS INSTRUCTION, PERFORMANCE, PREDICTIVE VALIDITY, WISCONSIN.

ED 010 535
THE PROBLEMS OF UNDER ACHIEVEMENT AND LOW ACHIEVEMENT IN MATHEMATICS EDUCATION.
SMALL, DWAIN E. AND OTHERS
FLORIDA UNIV., GAINESVILLE
EDRS PRICE MF-$0.50 HC-$3.52 88P.
PUB DATE NOV 66
DESCRIPTORS- *LOW ACHIEVERS, *MATHEMATICS INSTRUCTION, *PROBLEM SOLVING, *REMEDIAL MATHEMATICS, *UNDERACHIEVERS, ABILITY IDENTIFICATION, ACADEMIC ACHIEVEMENT, CASE STUDIES (EDUCATION), DIAGNOSTIC TESTS (EDUCATION), ELEMENTARY SCHOOL STUDENTS, FLORIDA, GAINESVILLE, GRADE 4, GRADE 5, GRADE 6, MATHEMATICAL CONCEPTS, TEST CONSTRUCTION.

ED 010 574
THE ORGANIZATION OF INTERRELATED INDIVIDUAL PROGRESS AND ABILITY LEVEL COURSES IN MATHEMATICS AT GARBER HIGH SCHOOL--AN INTRODUCTION.
BRATTEN, JACK E.
SYSTEM DEVELOPMENT CORP.,
SANTA MONICA, CALIFORNIA
EDRS PRICE MF-$0.25 HC-$0.72 18P.
PUB DATE 4 JAN 66
DESCRIPTORS- *INDIVIDUALIZED INSTRUCTION, *INSTRUCTIONAL INNOVATION, *MATHEMATICS CURRICULUM, *SCHOOL ORGANIZATION, *STUDENT NEEDS, CALIFORNIA, ESSEXVILLE, CONTINUOUS PROGRESS PLAN SCHOOLS, HIGH SCHOOLS, MICHIGAN, SANTA MONICA, SIMULATION, SYSTEMS ANALYSIS.

ED 010 575
THE ORGANIZATION OF INTERRELATED INDIVIDUAL PROGRESS AND ABILITY LEVEL COURSES IN MATHEMATICS AT GARBER HIGH SCHOOL. DESCRIPTIVE ANALYSIS.
BRATTEN, JACK E.
SYSTEM DEVELOPMENT CORP.,
SANTA MONICA, CALIFORNIA
EDRS PRICE MF-$0.25 HC-$0.80 20P.
PUB DATE 27 JAN 66
DESCRIPTORS- *COURSE ORGANIZATION, *CURRICULUM DEVELOPMENT, *INSTRUCTIONAL DESIGN, *MATHEMATICS CURRICULUM, *SYSTEMS ANALYSIS, CALIFORNIA, CONTINUOUS PROGRESS PLAN SCHOOLS, ESSEXVILLE, INDIVIDUAL INSTRUCTIONAL, INNOVATION, MICHIGAN, PROGRAMED INSTRUCTION, SANTA MONICA, STUDENT NEEDS.

ED 010 576
THE ORGANIZATION OF INTERRELATED INDIVIDUAL PROGRESS AND ABILITY LEVEL COURSES IN MATHEMATICS AT GARBER HIGH SCHOOL--SYSTEM ANALYSIS AND STIMULATION.
BRATTEN, JACK E.

SYSTEM DEVELOPMENT CORPORATION,
SANTA MONICA, CALIFORNIA
EDRS PRICE MF-$0.25 HC-$1.20 30P.
PUB DATE 28 FEB 66
DESCRIPTORS- *COMPUTER PROGRAMS, *MATHEMATICS INSTRUCTION, *MODELS, *SIMULATION, *SYSTEMS ANALYSIS, CALIFORNIA, CONTINUOUS PROGRESS PLAN SCHOOLS, ESSEXVILLE, MICHIGAN, SANTA MONICA.

ED 010 586
RULE GENERALITY AND CONSISTENCY IN MATHEMATICS LEARNING.
SCANDURA, JOSEPH M.
FLORIDA STATE UNIVERSITY, TALLAHASSEE
EDRS PRICE MF-$0.50 HC-$3.60 90P.
PUB DATE 66
DESCRIPTORS- *MATHEMATICAL APPLICATIONS, *MATHEMATICAL EXPERIENCE, *PROBLEM SOLVING, *PSYCHOLOGICAL STUDIES, *TESTING PROBLEMS, EDUCATIONAL STRATEGIES, FLORIDA, LEARNING EXPERIENCE, MATHEMATICS MATERIALS, PERFORMANCE FACTORS, TALLAHASSEE.

ED 010 599
A STUDY OF AN EXPLORATORY TECHNIQUE USED IN EDUCATIONAL RESEARCH.
DARROCH, JOHN N.
MICHIGAN UNIVERSITY, ANN ARBOR
EDRS PRICE MF-$0.25 HC-$1.08 27P.
PUB DATE 66
DESCRIPTORS- *CALCULATION, *EDUCATIONAL RESEARCH, *FACTOR ANALYSIS, *MATHEMATICAL APPLICATIONS, *MATHEMATICAL MODELS, ANN ARBOR, MATHEMATICAL CONCEPTS, MEASUREMENT TECHNIQUES, MICHIGAN.

ED 010 609
THE PROBLEM OF CLASSIFYING MEMBERS OF A SINGLE POPULATION INTO GROUPS. STATISTICAL MODELS FOR THE EVALUATION AND INTERPRETATION OF EDUCATIONAL CRITERIA, PART II.
SAW, J. G. FLORA, R. E.
VIRGINIA POLYTECHNIC INSTITUTE, BLACKSBURG
EDRS PRICE MF-$0.50 HC-$3.36 84P.
PUB DATE 65
DESCRIPTORS- *EDUCATIONAL RESEARCH, *MATHEMATICAL MODELS, *PREDICTIVE ABILITY (TESTING), *PREDICTIVE MEASUREMENT, *STATISTICAL ANALYSIS, BLACKSBURG, CALCULATION, MATHEMATICAL APPLICATIONS, MEASUREMENT TECHNIQUES, PREDICTIVE VALIDITY, VIRGINIA.

ED 010 628
IDENTIFICATION AND DEFINITION OF SUBJECT-MATTER CONTENT VARIABLES RELATED TO HUMAN APTITUDES, VOLUME II, APPENDICES.
KROPP, RUSSELL P. AND OTHERS
FLORIDA STATE UNIVERSITY, TALLAHASSEE, INSTITUTE OF HUMAN ENG
EDRS PRICE MF-$1.25 HC-$11.12 278P.
PUB DATE JAN 67
DESCRIPTORS- *INSTRUCTIONAL MATERIALS, *MATHEMATICS INSTRUCTION, *REDUNDANCY, *SET THEORY, *VOCABULARY DEVELOPMENT, APTITUDE, COGNITIVE ABILITY, FLORIDA, INDIVIDUALIZED PROGRAMS, INSTRUCTIONAL DESIGN, LEARNING DIFFICULTIES, LEARNING THEORIES, TALLAHASSEE.

ED 010 659
MATHEMATICS CLUSTERS IN SELECTED AREAS OF VOCATIONAL EDUCATION, REPORT NUMBER 8.
RAHMLOW, HAROLD F.
WINCHELL, LEONARD
WASHINGTON STATE UNIV., PULLMAN
EDRS PRICE MF-$0.25 HC-$0.60 15P.
PUB DATE 30 NOV 66
DESCRIPTORS- *JOB ANALYSIS, *MATHEMATICAL APPLICATIONS, *MATHEMATICS INSTRUCTION, *OCCUPATIONAL INFORMATION, *VOCATIONAL EDUCATION, JOB SKILLS, JOB TRAINING, OLYMPIA, PULLMAN, WASHINGTON.

ED 010 839
EFFECTIVENESS OF AUTOMATED VISUAL PROGRAMED INSTRUCTION WITH PARAPLEGIC AND OTHER SEVERELY HANDICAPPED STUDENTS.
COSS, JOE G. AND OTHERS
DOWNEY UNIFIED SCHOOL DISTRICT, CALIF.
EDRS PRICE MF-$0.25 HC-$1.96 49P
PUB DATE DEC 66
DESCRIPTORS- *ARITHMETIC, *INDIVIDUAL INSTRUCTION, *PHYSICALLY HANDICAPPED, *PROGRAMED INSTRUCTION, *TEACHING MACHINES, CALIFORNIA, DOWNEY, RANCHO LOS AMIGOS HOSPITAL, SECONDARY SCHOOL STUDENTS, VISUAL LEARNING.

ED 010 989
THE READING-ARITHMETIC-SKILLS PROGRAM, A RESEARCH PROJECT IN READING AND ARITHMETIC.
CORLE, CLYDE G. COULTER, MYRON L.
PENNSYLVANIA SCHOOL STUDY COUNCIL, UNIVERSITY PARK
EDRS PRICE MF-$0.50 HC-$2.40 60P.
PUB DATE 64
DESCRIPTORS- *ACHIEVEMENT RATING, *ARITHMETIC, *ELEMENTARY SCHOOL STUDENTS, *READING SKILLS, CALIFORNIA ARITHMETIC TEST, CALIFORNIA READING TEST, CORRELATION, GRADE 4, GRADE 5, GRADE 6, TESTS OF SIGNIFICANCE, UNIVERSITY PARK, VERBAL READING ARITHMETIC SKILLS PROGRAM (RASP), WORD PROBLEMS.

ED 011 013
TELEWRITER STUDY, SPRING SEMESTER, 1966.
BISBEY, GERALD D. AND OTHERS
STATE COLL. OF IOWA, CEDAR FALLS
EDRS PRICE MF-$0.25 HC-$0.52 13P.
PUB DATE 4 JAN 67
DESCRIPTORS- *COLLEGE INSTRUCTION, *ELECTRO-MECHANICAL AIDS, *MATHEMATICS, CEDAR FALLS.

ED 011 045
PROBLEM SOLVING PROFICIENCY AMONG ELEMENTARY SCHOOL TEACHERS. II, TEACHERS OF ARITHMETIC, GRADES 3-6.
TURNER, RICHARD L.
INDIANA UNIV., BLOOMINGTON,
INST. OF EDUC. RES.
EDRS PRICE MF-$0.50 HC-$2.88 72P.
PUB DATE JUN 60
DESCRIPTORS- *ARITHMETIC, *PROBLEM SOLVING, *TEACHER CHARACTERISTICS, *TEACHING, *TESTING, BLOOMINGTON, ELEMENTARY SCHOOL TEACHERS.

ED 011 057
EXPLORATORY TYPE OF EVALUATION OF TV TRAINING OF ELEMENTARY MATHEMATICS TEACHERS. FINAL REPORT.
DWIGHT, LESLIE A. AND OTHERS
SOUTHEASTERN STATE COLL., DURANT, OKLA.
EDRS PRICE MF-$0.25 HC-$0.56 14P.
PUB DATE 66
DESCRIPTORS- *COMPARATIVE ANALYSIS, *CONVENTIONAL INSTRUCTION, *MATHEMATICS EDUCATION, *TEACHER EDUCATION, *TEACHING TECHNIQUES, *TELEVISED INSTRUCTION, DURANT, ELEMENTARY SCHOOL TEACHERS, TELEVISION RESEARCH.

ED 011 059
A COMPARISON BETWEEN TWO KINDS OF SECONDARY MATHEMATICS COURSES WITH RESPECT TO INTELLECTUAL CHANGES.
VAN HORN, CHARLES
ILLINOIS UNIV., URBANA
EDRS PRICE MF-$0.50 HC-$2.76 69P.
PUB DATE OCT 66
DESCRIPTORS- *ACHIEVEMENT GAINS, *ALGEBRA, *COURSE CONTENT, *INTELLECTUAL DEVELOPMENT, *MATHEMATICS INSTRUCTION, COMPARATIVE ANALYSIS, EXPERIMENTAL GROUPS, SECONDARY EDUCATION, STRUCTURE OF INTELLECT, TESTING, URBANA.

ED 011 081
TEACHING OF ADVANCED MATHEMATICAL CONCEPTS TO CULTURALLY DISADVANTAGED ELEMENTARY SCHOOL CHILDREN.
RUPLEY, WILLIAM H.
CALIFORNIA UNIV., BERKELEY
EDRS PRICE MF-$0.50 HC-$3.56 89P.
PUB DATE 66
DESCRIPTORS- *CULTURALLY DISADVANTAGED, *DISCOVERY LEARNING, *ELEMENTARY EDUCATION, *LEARNING MOTIVATION, *MATHEMATICS INSTRUCTION, ADVANCED PROGRAMS, BERKELEY, MATHEMATICAL CONCEPTS.

ED 011 517
FOUNDATIONS OF MATHEMATICS FOR ELEMENTARY TEACHERS.
GIBB, E. GLENADINE
STATE COLLEGE OF IOWA, CEDAR FALLS
EDRS PRICE MF-$0.25 HC-$0.20 5P.
PUB DATE 19 APR 66
DESCRIPTORS- *ELEMENTARY SCHOOL TEACHERS, *INSERVICE PROGRAMS, *INSTRUCTIONAL MATERIALS, *MATHEMATICS, *MATHEMATICS CURRICULUM, DES MOINES, FILMS, GEOMETRY, MATHEMATICS INSTRUCTION, SECONDARY SCHOOL TEACHERS, VIDEO TAPE RECORDINGS.

ED 011 760
STUDY OF VARIABLES ASSOCIATED WITH FINAL GRADES IN MATHEMATICS COURSES.
RISSER, JOHN J. DAVIS, ELTON C.
PASADENA CITY COLL., CALIF.
EDRS PRICE MF-$0.25 HC-$0.24 6P.
PUB DATE OCT 65
DESCRIPTORS- *ACADEMIC PERFORMANCE, *JUNIOR COLLEGES, *MATHEMATICS, *PREDICTION, *TESTING, MEASUREMENT INSTRUMENTS, PASADENA, PLACEMENT, PREDICTIVE MEASUREMENT, STUDENT EVALUATION.

ED 011 778
THE PREDICTION OF GRADES IN COLLEGE ALGEBRA--A CONTINUATION AND EXTENSION.
GELSO, CHARLES J.
EDRS PRICE MF-$0.25 HC-$0.56 14P.
PUB DATE 23 MAR 67
DESCRIPTORS- *ACADEMIC ABILITY, *ALGEBRA, *COUNSELING, *GRADE PREDICTION, *JUNIOR COLLEGES, ACADEMIC ACHIEVEMENT, DOUGLAS, GEORGIA, MATHEMATICS, PREDICTIVE VALIDITY, SCHOLASTIC APTITUDE TEST, SEQUENTIAL TESTS OF EDUCATION PROGRESS, SOUTH GEORGIA COLLEGE.

ED 011 941
EFFECTS OF EXPERIMENTAL PROGRAMS FOR SECONDARY MATHEMATICS ON PUPIL INTEREST IN MATHEMATICS AS INDICATED BY AN OVERT PARTICIPATION INDEX OF INTEREST.
RYAN, JAMES J. RISING, GERALD R.
MINNESOTA STATE DEPT. OF EDUCATION, ST. PAUL
EDRS PRICE MF-$0.25 HC-$1.08 27P
PUB DATE JUL 66
DESCRIPTORS- *COMPARATIVE ANALYSIS, *CONVENTIONAL INSTRUCTION, *EXPERIMENTAL PROGRAMS, *MATHEMATICS CURRICULUM, *STUDENT

MOTIVATION, BEHAVIOR RATING SCALES, GRADE 10, GRADE 11, GRADE 9, ST. PAUL.

ED 011 942
PARTICIPANT TEACHER JUDGMENTS OF EXPERIMENTAL PROGRAMS IN SECONDARY MATHEMATICS.
RYAN, JAMES J. RISING, GERALD R.
MINNESOTA STATE DEPT. OF EDUCATION, ST. PAUL
EDRS PRICE MF-$0.25 HC-$1.24 31P.
PUB DATE AUG 66
DESCRIPTORS- *EXPERIMENTAL PROGRAMS, *INSTRUCTIONAL MATERIALS, *MATHEMATICS INSTRUCTION, *PROGRAM EFFECTIVENESS, *TEACHER ATTITUDES, COMPARATIVE ANALYSIS, FACTOR ANALYSIS, GRADE 10, GRADE 11, GRADE 7, GRADE 8, GRADE 9, ITEM ANALYSIS, QUESTIONNAIRES, ST. PAUL.

ED 011 977
A STUDY OF THE EFFECTS OF EXPERIMENTAL PROGRAMS ON PUPIL ACHIEVEMENT OBSERVED DURING FIRST THREE YEARS OF THE PROJECT, SECONDARY MATHEMATICS EVALUATION PROJECT. INTERIM REPORT.
ERICKSEN, GERALD L. RYAN, JAMES J.
MINNESOTA STATE DEPT. OF EDUCATION, ST. PAUL
EDRS PRICE MF-$0.25 HC-$2.00 50P.
PUB DATE NOV 66
DESCRIPTORS- *ACADEMIC ACHIEVEMENT, *CURRICULUM EVALUATION, *MATHEMATICS INSTRUCTION, *STUDENT ABILITY, *TEACHER EXPERIENCE, SECONDARY EDUCATION, ST. PAUL, TEACHER CHARACTERISTICS.

MATHEMATICS EDUCATION REPORTS

IN

PACESETTERS IN INNOVATION FISCAL YEAR 1966

ES 000 052
NEW SHOREHAM TELE-LECTURE MATH PROJECT.
R.I., NEW SHOREHAM, SCHOOL COMMITTEE
EDRS PRICE MF-$0.25 HC-$1.16 29P.

DESCRIPTORS- *EDUCATIONAL EQUIPMENT, *ELECTRO-MECHANICAL AIDS, *GRADES 1-6, *GRADES 7-12, *KINDERGARTEN, *MODERN MATHEMATICS, ADULT EDUCATION.

ES 000 235
ADVANCED MATHEMATICS TELEVISION SERIES.
VA., HAMPTON, CITY SCHOOL BOARD
EDRS PRICE MF-$0.25 HC-$0.64 16P.

DESCRIPTORS- *ACCELERATED PROGRAMS, *CURRICULUM PLANNING, *GRADES 7-12, *HIGH SCHOOLS, MATHEMATICS, *TELEVISED INSTRUCTION, CALCULUS, INSERVICE TEACHER EDUCATION, SUMMER WORKSHOPS, VIDEO TAPE RECORDINGS.

ES 000 529
USE OF CALCULATORS IN TEACHING MATHEMATICS. ARK., WYNNE, PUBLIC SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.16 29P.

DESCRIPTORS- *GRADES 7-12, *MATHEMATICS, *MECHANICAL TRAINING AIDS, *UNDERACHIEVERS, CURRICULUM DEVELOPMENT.

ES 000 559
TEACHING MATHEMATICS THROUGH THE USE OF A TIME SHARED COMPUTER.
VT., SHELBURNE, CHAMPLAIN VALLEY UNION H.S.
EDRS PRICE MF-$0.25 HC-$1.44 36P.

DESCRIPTORS- *COMPUTER ORIENTED PROGRAMS, *CONTROL GROUPS, *GRADES 7-12, *MATHEMATICS.

ES 000 618
USE OF COMPUTER ASSISTED INSTRUCTION FOR MATHEMATICS IN-SERVICE EDUCATION OF ELEMENTARY SCHOOL TEACHERS.
PA., WILLIAMSPORT, AREA SCHOOL DISTRICT
EDRS PRICE MF-$0.50 HC-$3.08 77P.

DESCRIPTORS- *CONTROL GROUPS, *GRADES 1-6, *INSERVICE TEACHER EDUCATION, *MODERN MATHEMATICS, *PROGRAMED INSTRUCTION, CURRICULUM PLANNING, INDIVIDUAL INSTRUCTION, LECTURE, SEMINARS, TEACHER IMPROVEMENT.

ES 000 658
WORTH CURRICULUM DEVELOPMENT CENTER AND SERVICES.
ILL., WORTH, SCHOOL DISTRICT 127
EDRS PRICE MF-$0.75 HC-$5.20 130P.

DESCRIPTORS- *CURRICULUM DEVELOPMENT, *GRADES 7-12, *GRADES 1-6, *KINDERGARTEN, *LANGUAGE ARTS, *MATHEMATICS, *SOCIAL STUDIES, INSTRUCTIONAL MATERIALS, PROGRAMED INSTRUCTION.

ES 000 729
FLINTRIDGE CENTER.
OHIO, HEATH, CITY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.60 40P.

DESCRIPTORS- *CULTURAL CENTERS, *DEMONSTRATION CENTERS, *GRADES 1-6, *GRADES 7-12, *INTERDISCIPLINARY APPROACH, *KINDERGARTEN, *MATHEMATICS, *READING, CLOSED CIRCUIT TELEVISION, CONCERTS, FINE ARTS, SOCIAL STUDIES, STUDENT GROUPING, TEAM TEACHING.

ES 000 745
MATHEMATICS COMPUTER CENTER.
NEV., LAS VEGAS, CLARK COUNTY SCHOOL DISTRICT
EDRS PRICE MF-$0.25 HC-$1.68 42P.

DESCRIPTORS- *COMPUTER ASSISTED INSTRUCTION, *GRADES 7-12, *MATHEMATICS, COMPUTER CENTERS, INSERVICE PROGRAMS, PROGRAMING.

ES 000 812
PROGRAM FOR MATHEMATICALLY UNDERDEVELOPED PUPILS.
FLA., WEST PALM BEACH, PALM BEACH COUNTY BD. OF EDUCATION
EDRS PRICE MF-$0.25 HC-$2.00 50P.

DESCRIPTORS- *GRADES 7-12, *MATHEMATICS, *SLOW LEARNERS, *UNDERACHIEVERS, INSERVICE TEACHER EDUCATION, INSTRUCTIONAL AIDS.

ES 000 834
EDUCATIONAL INNOVATION (PROJECT--EDINN). CALIF., SALINAS, MONTEREY COUNTY SUPT. OF SCHOOLS.
EDRS PRICE MF-$0.50 MC-$2.36 59P.

DESCRIPTORS- *G R A D E S 1-6, *GRADES 7-12, *HUMANITIES, *I N D I V I D U A L INSTRUCTION, *MATHEMATICS, *MEXICAN AMERICAN, *READING, *TEACHER IMPROVEMENT, DEMONSTRATION PROGRAMS.

ES 000 898
COMPUTER MATHEMATICS AND PROGRAMING.
IND., GARY, COMMUNITY SCHOOL CORPORATION
EDRS PRICE MF-$0.25 HC-$0.84 21P.

DESCRIPTORS- *COMPUTER PROGRAMS, *GRADE 11, *GRADE 12, *GRADES 7-12, *MATHEMATICS, *PROGRAMING.

GPO 810-241

ES 000 901
OAKLAND COUNTY MATHEMATICS PROJECT.
MICH., PONTIAC, OAKLAND COUNTY SCHOOLS
EDRS PRICE MF-$0.25 HC-$1.48 37P.

DESCRIPTORS- *HIGH SCHOOL STUDENTS, *MATHEMATICS CURRICULUM, MATHEMATICS, VOCATIONAL EDUCATION.

ES 000 903
THE PLANNING OF CLASSROOM INSTRUCTIONAL MATERIALS DESIGNED FOR THE LOW ACHIEVING PUPIL IN GRADES 7 AND 8.
OHIO, CINCINNATI, BD. OF ED. CITY SCH. DIST.
EDRS PRICE MF-$0.25 HC-$0.80 20P.

DESCRIPTORS- *G R A D E 7, *GRADE 8, LOW A C H I E V I N G, MATHEMATICS, MATERIALS, MATHEMATICS.